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## COURSE OF LECTURES
ON
## DISEASES OF THE SKIN;
THEIR
## HISTORY, PATHOLOGY, AND TREATMENT.

*Delivered in the Middlesex Hospital, during the Summer Session, 1842, by*

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### LECTURE VI.

THE mode of production and growth of the epithelial membranes of the body has of late years engaged the attention of the most distinguished physiologists of our own country and of the continent. Among the latter the name of the present professor of Zurich, Henle, stands pre-eminent as the discoverer of a specific epithelium on the surface of mucous and serous membranes. To the labours of Henle we are also indebted for much information on the mode of growth of the epithelium, and the changes wrought on that structure by disease. But our mature knowledge of the epithelium, forms a part of the admirable researches of Schleiden and Schwann into the history and development of cells. One of the most interesting of the results of modern investigation is the identity of structure and phenomena in epithelium, wheresoever it may chance to be examined; whether, for example, on the serous membranes, the mucous membranes, or the external surface of the body; any differences that may exist being to be regarded as modifications of the same essential type, suited to the peculiar functions of the part in which such differences occur. Thus, the most universal of the forms of epithelium assumes a character which is well expressed in the terms *laminated*, *tesselated*, or *pavement* epithelium; of this kind is the epidermis, the coverings of all external mucous membranes, as the ocular conjunctiva, the mouth, &c., and the serous membranes. The next most frequent form of epithelium consists of particles identical with those of the preceding but lengthened out into the figure of columns or cylinders; hence this variety is termed *columnar* or *cylinder* epithelium; the latter is found in the intestinal canal, in the excretory ducts of many glands, in the urethra and its ducts, and in the uterus. The third variety of epithelium is characterised by the presence of minute vibratile ciliæ, rising from the surface of the epithelial particles; these constitute the *ciliated* epithelium, and according as the ciliæ are seated on a basis of epithelium of the tesselate or columnar kind, we speak of it as a *ciliary tesselated* or *ciliary columnar* epithelium. The ciliary tesselated epithelium is met with on the arachnoid membrane lining the ventricles of the brain, in the finer divisions of the bronchi, and very probably in the tubuli of the nerves; while the ciliary columnar epithelium occupies the air passages, including the nares, Eustachian tubes and fauces, the uterus, and the Fallopian tubes, the direction of movement of the ciliæ being in every case towards the outlet of the cavity in which they are found.

If we review briefly the three kinds of epithelium here described, it will be at once apparent that the pavement epithelium is of all that which is best fitted for the office of protecting membrane to the soft and delicate structures of the surface of the dermis; that the columnar kind would be speedily destroyed by the attrition to which the superficies of the body is subjected; and that the vibratile ciliæ would be totally incapable of performing their function. The history of the mode of formation and growth of the epidermis is then the history of internal epithelia, simply modified by new conditions.

If we imagine the epidermis to be completely removed in a living individual, and the surface of the corpus papillare to be thoroughly exposed; the first movement towards reproduction will be the exudation of liquor sanguinis (coagulable lymph) from the capillary vessels and its subsequent extension over the entire surface, so as to constitute an uniform layer. The liquor sanguinis at large from the blood-vessels, and subjected to the action of the atmosphere, undergoes coagulation, and a viscous layer

is formed, which is at once the plastic lymph and cytoblastema of the new formation. The cytoblastema, by virtue of a vital force inherent partly in itself, and partly derived from the living tissue on which it rests, becomes converted into granules, which are termed cell-germs or cytoblasts. The cell-germs, like all animal constituents, are endowed with the property of endosmosis, and this attribute acting upon the fluid existing in the lymph, and also upon that contained within the living tissues, distends the outer pellicle of the cytoblast, and gradually changes its character from a solid granule to a cell or vesicle filled with albuminous fluid. The solid portion of the cell-germ still remains, and maintains its connection with some one point of the internal surface of the cell-membrane, constituting its nucleus. The latter, moreover, is more or less altered by the process of imbibition and development, a nucleolus is generally produced in its interior, and sometimes several nucleoli are formed. At this period the whole of the exposed surface of the dermis is covered by a stratum, accurately modelled upon the papillary layer, and consisting of nucleolo-nucleated cells, exhibiting various degrees of development, and lying closely packed together, any interstices that may have been left being occupied by the unemployed portion of the plastic lymph.

Successive exudations of plastic lymph serve to push the nucleolo-nucleated layer now described from the surface on which it was embedded; the formative process still maintains its activity in connection with the papillary layer, while other phenomena are imperceptibly occurring in those strata which approach nearer and nearer towards the surface. The changes to which I now allude, are the evaporation of the fluid contained within the cells, and the gradual conversion of those bodies into flattened, polyhedral scales, in which all traces of the nucleus are nearly or entirely lost. These alterations are naturally progressive, so that if it were possible to examine each successive layer, from the cytoblasts to the epidermic scales, we should find every stage of gradation through the globular, the elliptical, and the flattened cell, to the flattened and condensed scale. Concurrently with these changes, indeed in some degree the cause of them, is the gradual diminution of vital power in the successive strata, until they are in the end completely removed from the influence of vital laws, and placed under the control of those of a physical kind.

The mutual adaptation existent among the cytoblasts at their earliest origin, and the subsequent gradual progress of condensation, render a connecting medium unnecessary. The vacuities between the cytoblasts, where they occur, are occupied by the unemployed portion of the plastic lymph. But the cells in progress of formation, and the flattened cells and scales are connected together merely by the apposition of their surfaces and borders; hence they are continually separated from the surface of the epidermis, as a consequence of desiccation and attrition, sometimes in the form of individual scales, at others, in flakes of varying magnitude.

Besides the functions already described as belonging to the epidermis, another, and an important one, results from the circumstance of this tissue being the seat of the colouring principle observable among the natives of the south, and in the inhabitants of colder climates under certain circumstances. The pigment of the skin consists of minute oval-shaped and flattened granules deposited in greater or less number in cells analogous to those of the epidermis. These pigment cells are most abundant in the furrows of the dermis, and in the valleys between the papillæ. They are found also in that portion of the epidermis which is prolonged into the sudoriferous ducts and hair-follicles and forms their lining membrane. In the deeper strata of the epidermis, the rete mucosum, the pigment granules exhibit all their depth of colour, from distension with the fluids of the freshly effused lymph; but as the granules are progressively desiccated in their transference from the deeper layers to the surface, the fluids of the cells are lost by evaporation, and the colour of the pigment ceases to be apparent; hence it is that in the skin of the negro the deep jet-black of the rete mucosum is converted into the greyish and whitish substance of the superficial layers of the epidermis.

The nails are portions of epidermis modified for an especial purpose, the protection of a part of the body which otherwise would be continually exposed to injury, and consequently restricted in its uses to the individual. The greater thickness and density of the nail are due to a more active process of formation existing in the dermis which they invest, and a more highly developed state of the papillary layer. They are implanted, by means of their posterior border or root, in a furrow of the dermis nearly two lines in depth. This furrow is formed by an inflection of the dermis, and may be regarded as a true follicle, in which the base of the nail is produced. At the bottom of the follicle are situated a number of elongated papillæ, which contribute to the growth of the nail in length by the constant addition of fresh cells to its free border. The growth of the nail in thickness is effected by the plicated papillæ which I have before described as situated on that portion of the dermis with which the concave surface of the nail lies in contact. These plait-like papillæ offer an extensive surface both for the adhesion of the nail and for its formation. The cytoblasts are developed on every part of their surface, in the furrows which serve to

divide them, along their convex ridges and on their sides, and a lamina of cells is consequently formed around each, and this lamina, by a continuation of the process of development, becomes converted into a thin plate of hardened nail, one of which occupies each interspace between the papillæ. If a nail be forcibly raised from its dermic bed, this disposition may be easily demonstrated; the thin laminated papillæ will be seen issuing from between the several horny plates which project from the under surface of the nail. This laminated structure is best exhibited in the perpendicular wall of the hoof of the horse, where it is met with in a magnified form. Along the borders of the nail, beneath near its anterior border, and at the root on its upper surface the nail is closely adherent to the epidermis.

When the nail is examined on its convex surface several peculiarities are perceptible in its appearance. Near its root there is a light-coloured surface bounded by a semilunar line; this is termed the *lunula;* and the paleness of this part is due to the inferior degree of vascularity which it presents. The deeper tint of red which is characteristic of the rest of the surface of the nail, results from the abundance of capillary vessels distributed through the plicated papillæ, while the ribbed appearance of the surface is dependent on the manner in which the dermic papillæ in the follicle of the nail are arranged.

The *hairs*, like the epidermis, are insensible horny products of the skin, composed chiefly of albumen, and formed by an involution, and subsequent evolution of that membrane. The involution of the epidermis constituting the follicle in which the hair is contained, and the evolution the hair itself. The follicle extends more or less deeply into the skin; in some of the more minute hairs not proceeding beyond the limits of the corium, but in the longer hairs traversing that layer completely, and proceeding for some distance into the subcutaneous areolar tissue, where it is surrounded by adipose cells.

A hair is divided into a root or bulb, and a shaft; the former being expanded and conical or infundibular in shape; the latter more or less cylindrical or flattened. A common figure of the section of a hair is reniform, or prismoid. The section of a hair demonstrates its composition of a central portion, which is loose in its texture, and a peripheral portion, which is condensed and horny. It is this appearance which has given rise to the incorrect supposition of the constitution of a hair of two parts of different nature, under the names of a cortical and a medullary portion, a constant transudation of fluid being supposed by some to take place through the latter. Under the microscope the structure of the hair is distinctly fibrous, the fibres being separated to a variable distance from each other in the centre of the cylinder, and closely compacted at its circumference; moreover, the external surface is encased in a sheath formed of broad scales, which overlap each other from the root to the point of the hair. The borders of these scales projecting slightly beyond the level of the shaft occasion a certain degree of roughness of the surface, which is felt when the hair is held with gentle pressure, and drawn between the fingers. Indeed, this experiment has been used as an argument in favour of supposed branches like those of a feather being given off from the sides of the shaft. The extremity of a hair is usually pointed, or it may be split into two or three filaments.

The root of a hair is implanted on a soft vascular substance situated at the bottom of the follicle, and analogous to a dermic papilla. This is the formative organ of the hair, and is termed its *pulp*. The mode of production and growth of the hair is identical with that of the epidermis; a layer of plastic lymph is in the first instance effused; this is converted into cytoblasts, and these latter are lengthened out so as to constitute spindle-shaped fibres. The cytoblasts of the periphery of the base of the pulp have a somewhat different arrangement; they are firstly distended into cells, and, subsequently, these cells become flattened, and form scales, which constitute a complete envelop to the fibrous structure. The colour of hair is due to pigment cells, which are mingled in greater or less number with the horny fibres, and confer by their quantity a proportionate depth of colour on the hair.

Mandl has published some peculiar views with regard to the growth of the hair. He conceives that a hair may grow by its extremity as well as by its root; that a transudation of fluids takes place through the central part of the shaft, and that this fluid deposited around the circumference of the cut extremity, forms a succession of rings which prolong the hair onwards to a point. Mandl affirms that he has seen this change take place in repeated instances, and adverts, as an illustration in proof of its truth, to the pointed form of the eyebrows and eyelashes. He explains also, by this supposed movement of fluids in the central part of the hair, the changes which are occasionally observed to take place in the hair on a sudden, or in a brief period of time.

Sebaceous glands are in most instances appendages to the hair-follicles, although performing a very different office. They are developed with and from the hair-follicles, and with few exceptions every sebaceous gland in the body pours its secretion into one of those canals. They present numerous modifications of structure, varying from the simple crypt to the compound and lobulated gland, and are situated at irregular distances from the surface, some being em-

bedded in the tissue of the dermis, and others prolonged into the subcutaneous areolar tissue. When the excretory duct of one of these glands is long it pursues a more or less spiral course to its termination, and it frequently happens that this duct is joined near its extremity by the tubuli of other glands. Sebaceous glands are found in all parts of the body. In those which are most exposed, however, as on the face and back, and in situations liable to friction, they are more abundant than in other regions.

The sudoriparous glands are situated deeply in the skin, in the midst of the adipose cells of the subcutaneous areolar tissue. Some question exists with regard to the structure of these organs, certain physiologists, among whom are Müller, believing them to be composed of the convolutions of a single duct; while others, supported by the authority of Gerber, regard them as an assemblage of globular sacs. In general form these glands are oval, or oblong in shape, and they are provided with a long efferent duct, which proceeds outwards through the dermis and epidermis to the surface of the latter. The sudoriferous duct offers some variety in its course to the surface of the skin; in some cases passing nearly in a direct line to its destination, while in others it is more or less irregular and tortuous. Wherever the epidermis is thick the sudoriperous duct forms a very regular spiral in its passage through this membrane. The termination of the duct on the surface of the skin is an infundibular aperture, oblique in its direction, and performing the office of a valve to the extremity of the canal.

A good view of the sudoriferous ducts may be obtained by scalding a portion of skin and withdrawing the epidermis; or by removing the latter from a portion of integument in a state of decomposition.

With this brief sketch of the structure of the skin, which will suffice for our present purpose, I shall leave the consideration of the anatomy of the tegumentary organ, and next proceed to treat of the first division of diseases of the skin, namely,—diseases of the dermis.

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### MEDICO-LEGAL CASES.

The "Edinburgh Medical Journal," for October, contains several cases of gun-shot wounds received in Canada in 1838, reported by Dr. Thomas Stratton, of the navy medical department, being part, as he terms them, of the surgical fruits of an action which took place on the river St. Lawrence. They are written principally in order to place on record the amount of bodily exertion made by individuals immediately after receiving a wound, a question which is interesting in medico-legal cases, and as such we mention here their publication.

### GOUT IN THE POOR.—IODIDE OF POTASSIUM.

*Middlesex Hospital.*—George Wilkinson, aged 50, a sawyer, has genuine gout, a very rare disease among the lower classes, and seldom finds its way to an hospital, unless in butlers and other servants of wealthy families, who live luxuriously. In this man his gout began when he was about the age of 43, when it affected his great toe. It was for many years confined to his feet, each of which it visited alternately, until two years ago, when the joints of the upper extremities became involved. None, that he knew of, of his family had ever been so affected. He is not of that class that have access to luxurious living; he is of a trade which does not afford very indolent living. He had gone through many hardships, and had served with the army on the Peninsula. He does not appear to have been intemperate, and says if he exceeded at all, it was in porter, of which, when at full work, he drank about four pints daily. The quantity is not, I believe, considered excessive in his class, when hard at work. Porter has been found, when drunk immoderately, to tend to produce gout. The persons employed on the river in the heavy work of removing ballast drink very large quantities of porter, and the medical officers of the Dreadnought, hospital-ship, state that a very large proportion of their patients are those ballasters so diseased. There is one point particularly worthy attention as regards the treatment. This patient has found the greatest relief from the iodide of potassium, and his case affords the second instance that has fallen under my notice within the last month of the certain good effects of that remedy. A gentleman, who has been frequently and severely visited with gout, lately assured me that he had found the iodide of potassium most efficacious. Two cases are certainly not sufficient to establish it as a remedy, but they render it worthy of particular attention. —*Dr. Watson, Clin. Lect.*, Oct. 29.

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### A POPULATION GETTING SHORTER.

In the department of Finisterre (Brittany), the use of ardent spirits seems to increase, and to be attended with some peculiar effects on the population. In the two arrondissements of Quimper and Quimperlé, the spirituous liquors imported increased from 1,869 hectolitres in 1825, to 3,985 in 1839; and, corresponding with this increase, the average stature of young persons subject to military service is said to have diminished until it had become 23 millimetres (about an inch) less in 1838 than in 1818. A much greater number of individuals was also found unfit for service in the former than in the latter-named year. Gin and camomile have long been in repute in England for stunting the growth of little dogs.

# LIEBIG,

## HIS CHEMISTRY AND REVIEWERS.

BY

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### No. III.

LIEBIG's work on Animal Chemistry cannot be understood without a previous knowledge of

*The Present State of Organic Chemistry, as regards the Complicated Molecular Actions which take place during Fermentation, and similar Processes.*

In all the author's late productions the *quantitative* method of analysis is preferred to the *qualitative*,—by the latter being understood the determination of the component parts of a compound without regard to *equivalent numbers*. No one, who is acquainted with the progress of the art during the last twenty-five years, can deny that the latter method has almost entirely failed in producing the useful results which were anticipated from it; and the limitation of the advantages which have accrued to medicine from the labours of the chemists of this country is attributable to their having confined their operations within its bounds. The numerous tables extant of the constituents in one hundred parts of complex organic products, are, for the most part, a mass of insulated and unavailable facts, since, as remarked by Liebig, they afford no insight whatever of the relations which exist among their elements.

*By the Quantitative Method is to be understood*

the use of *formulæ* in which the composition of a substance is represented algebraically, according to equivalents. Thus, cyanogen, containing 46.1 of carbon, and 53.9 of nitrogen, in 100 parts, is recognised in the formula $NC_2$, which indicates at sight that it is a bicarburet of nitrogen.

The complicated formulæ of organic substances are either *empirical* or *rational*. The empirical formula of acetic acid is $C_4 H_4 O_4$, in which the component parts are expressed simply in equivalents. But the rational formula, $Ac\ O_3 + HO$, represents acetic acid as a compound of acetyl ($C_4 H_3$) one equivalent, oxygen three equiv., and water one equiv. The rational formulæ are deduced from a previous knowledge of the qualities of the elementary substances; by their use we are enabled not only to express the relations ascertained to exist in the elementary composition of bodies, but also the actual or probable differences of these relations, where the ultimate composition in 100 parts is the same.

The importance of this method to animal chemistry is apparent in every page of Liebig's book; at the same time we cannot conceal from ourselves that in its details it is at present extremely imperfect. In the first place, the equivalents of the more simple bodies have to be accurately determined; then, the composition in 100 parts. It is well known how numerous, in the statements of chemists upon these points, are the discrepancies met with, which must be sources of error. There is also a risk of omitting, in the formulæ representing the products of life, minute portions of essential constituents. It is by no means improbable that future investigations will serve to correct many errors of this kind in Liebig's formulæ; but, on the other hand, it must be admitted that such an immense weight of evidence can frequently be brought together in favour of the accuracy of particular cases as to amount nearly to demonstrative proof; and, at all events, there can remain no question that the step taken by adopting this method is in the right direction. So universal is this opinion that it is impossible to recede, and every physiologist must in future accustom himself to the use of these chemical formulæ. With respect to

*The Molecules of Organic Substances generally,*

as distinguished from those of an inorganic nature, they not only contain a greater number of elements, but the atoms of these elements appear, in many instances, to be very numerous, and are combined together in the most complicated manner, by which their intrinsic attractions are multiplied. Thus, a molecule of proteine is composed, according to Liebig, of 48 atoms of carbon, 36 of hydrogen, 6 of nitrogen, and 14 of oxygen. The force with which the combining elements of a compound adhere to one another may be represented as inversely proportional to the number of simple elements in the compound molecule, since the directions in which the attractions of the elements act are more numerous in proportion to the number of atoms which enter into a compound; accordingly the chemical affinities of organic substances are weak. The feebleness of these affinities is shown in the slight degree of force with which their component elements are held together, and in their action and reaction upon other substances. Thus, they have none of the energetic chemical power which characterises, for the most part, simple inorganic binary and ternary compounds, and they are accordingly not only liable to be decomposed by the chemical action of the latter substances, but they are also especially liable to have "the equilibrium of attraction among their particles disturbed by very slight causes;" or, in a word, they are

thereby rendered extremely susceptible of "transformations."

*The Chemical Transformations, or Metamorphoses,*

to which I allude, are described by Liebig as occurring "when, by any cause, the composition of any compound is made to undergo such a change as that its elements form two or more new compounds, none of the elements of the body being singly set at liberty."* Eremacausis, putrefaction, and fermentation, comprise numerous examples. Many cases of this kind of action resemble the influence which a burning body exercises upon a combustible in its vicinity.

Metamorphoses of this kind are brought about by various causes, as by heat, which alters the force of cohesion of two or more elements of a compound; or by the addition of the elements of water, or by air. But there is no cause more frequent or more remarkable than the *contact* of a foreign body.

This result of the contact of bodies has excited the greatest interest of late. Observing, for instance, the effect of the mere contact of platinum with peroxide of hydrogen, in decomposing the latter, Berzelius ascribed it to a new force, to which he gave the name of *catalysis*. But Liebig has banished the idea of a new force, in instances analogous to this, by reproducing a law proposed by Laplace and Berthollet, and proving its application to chemical phenomena. According to this law "a molecule set in motion by any power can impart its own motion to another molecule with which it may be in contact." By this law in dynamics the phenomena in question are explained.

Motion alone, therefore, exercises a powerful influence on chemical forces, causing a change in their condition. A body in the act of combination or decomposition is capable of imparting the state of activity of its atoms to other bodies in contact with it, so as to produce in the latter combinations and decompositions without being itself involved in them. The substances most prone to this cause of change are the unstable, complicated compounds of organic origin, which exist, in a great measure, by the *vis inertiæ*.

When a body, the molecules of which are in an active state of combination or decomposition, communicates its state of activity to a body in contact with it, if the atoms of the latter are susceptible of a change similar to that of the body in action, they undergo it, and similar combinations and decompositions take place. But if the atoms of the body acted upon are not susceptible of a similar action, all further change ceases in it after the atoms of the first body assume the state of rest.

* Chemistry of Agriculture, p. 257.

There is a certain class of substances to which the term

*Compound Radicles*

has been applied, which possess the property of acting as elements in numerous compounds, particularly in those of organic origin, and of combining with each other, and with the elements of inorganic substances, to form organic principles. Carbonic oxide and cyanogen are examples. These radicles have a definite and simple composition, and they enjoy all the properties of elementary bodies; many of them are known as isolated substances; others are hypothetical. Thus acetyl ($C_4 H_3$) is the hypothetical radicle of an extensive group of important substances, including alcohol, ether, and acetic acid. The importance of these radicles in carrying out rational formulæ must be obvious; in fact, collectively, they constitute the key-stone of organic chemistry; they lead to a natural classification of complex substances, and by their means organic combinations are arranged in groups, of which they form the bases. Through these substances, also, organic matter may be said to have its own elements, the carbon, nitrogen, and other definitive elements, never appearing till all trace of the organic origin of such substances has disappeared.

The compound radicles have ascribed to them particular forms, and it is to their forms as well as to their composition that the chemical characters of organic substances are by some chemists referred. In organic analysis it is necessary to admit two varieties of affinity:—1. That of the compound radicle towards simple elements, or towards other compound radicles. 2. The affinity of each element towards the other elements; by the latter affinity, belonging strictly to inorganic chemistry, the elements tend to more simple arrangements; by the former is effected organic metamorphoses, in which the elements become newly grouped without being separated from each other. The affinity of the elements is counterbalanced by the affinity of the radicle, and the preponderating affinity of the radicle gives to the organic compound its peculiar character, by maintaining its principal constituents in a determinate order, which the special affinity of the elements constantly tends to destroy.

The facility with which organic metamorphoses take place is in proportion to the number, heterogeneousness, and chemical differences of the elements of the organic molecules. A molecule which contains but two elements cannot undergo a metamorphosis without decomposition and the separation of its elements, except that several more simple molecules of the same kind may combine and form a complex molecule of a superior order; thus, three proportionals of cyanogen unite to form one of paracyanogen; or a complex molecule may divide itself into

many simple molecules of an inferior order. In the more simple molecules containing three elements the affinity of the radicle generally exceeds the special affinity of the elements; combinations of this kind usually presenting a definite chemical character, acid, basic, or neutral. In the more complex molecules the affinity of the radicle is counterbalanced by the elementary affinities, and the molecule does not possess a well-marked chemical character, bodies thus constituted acting as acids with strong bases, and as bases with strong acids.

In studying organic metamorphoses and decompositions it is also to be remembered that the elements which enter into organic compounds have very different degrees of affinity for each other. Thus, in a burning body composed of hydrogen and carbon, the former has a greater affinity for oxygen than the latter, and the carbon is not oxidised unless the oxygen is in greater quantity than necessary to convert all the hydrogen into water. If the oxygen is exactly sufficient to burn the hydrogen, the carbon is deposited as a black soot. Carbon meeting with hydrogen and oxygen at the same time, under favourable circumstances for union with both, combines with the oxygen, although sometimes it is divided between the two, with production of carburetted hydrogen gas. Nitrogen gas possesses a degree of affinity for hydrogen which far surpasses its affinity for any other element; hence ammonia is the most stable compound of nitrogen, and no carburetted hydrogen is produced when a compound of azote and carbon meets with hydrogen in the proportion exactly sufficient to form ammonia. So, also, on burning a compound of azote and carbon, the carbon alone unites with the oxygen, the azote being disengaged. Every circumstance of this kind exercises the greatest influence in the chemistry of organic substances.

Again; the facility with which an organic molecule is decomposed for the most part increases with the quantity of oxygen which it contains. The diversity of the transformations, and of the resulting products indicate most certainly the complexity of an organic substance. The metamorphoses which occur after organic substances are removed from the influence of the vital force, constitute a separation, or splitting up into new and less complex compounds.

It is an error to suppose that organic substances undergo changes spontaneously, or without the aid of an external cause. The equilibrium of their elements must be disturbed, and the most common primary causes of that disturbance are the surrounding atmosphere, and contact with bodies in a state of molecular motion. It must also be remembered that, although it is customary to describe oxygen, hydrogen, carbon, and azote, as being peculiarly organic elements, and it is a fact that they enter into the constitution of organic proximate principles more constantly and in greater proportions than the other elements of matter, yet recent investigations have demonstrated that other elements are equally essential to the constitution of these principles. Notwithstanding the minute proportions in which they occur, sulphur and phosphorus are essential to the constitution of albumen and fibrin; and sodium, potassium, and iron, can as little be dispensed with in the animal economy as nitrogen itself. These elements can no longer be regarded as incidental and non-essential. The following are among

THE MORE IMPORTANT METAMORPHOSES, THE NATURE OF WHICH HAS BEEN INVESTIGATED.

Some of them comprise extensive series of changes in the molecular constitution of organic substances.

*Dry Distillation.*

When fixed organic substances are submitted alone to distillation they undergo various changes, and form new and more simple volatile compounds. The products are determined by the affinities above referred to, and by the volatility or fixedness of the new combinations. They vary also according to the temperature employed. The organic acids, for instance, lose by heat the elements of water; their carbon is converted into carbonic acid, and by repeating the distillation at different temperatures, a series of changes is produced. This is well illustrated in the case of *citric acid*.

The formula of this acid crystallised is,

$$3\,HO, C_{12} H_5 O_{11} + HO.$$

By dry distillation it loses its water of crystallisation, and is successively converted into the following compounds:—

Citric acid ..... $C_{12} H_5 O_{11} + 3\,HO$
Aconitic acid .... $C_6 H_2 O_3 + HO$
Itaconic acid .... $C_5 H_2 O_3 + HO$
Citraconic acid .. $C_5 H_2 O_3 + HO$

In the first case, water only is given off. In the second acetone ($C_3 H_3 O$), a volatile liquid; also carbonic oxide and carbonic acid. In the third and fourth, carbonic acid; itaconic and citraconic acids being isomeric.

In dry distillation, substances containing nitrogen give off ammonia in the first changes, and hydrocyanic acid afterwards.

*Eremacausis,*

or slow combustion or slow oxidation, constitutes another description of changes to which organic bodies are liable. They occur at the ordinary temperature of the air, or a little above it, but not below 32° Fah. The external presence of oxygen and of water is necessary, and humidity, or the action of alkalies, or the contact of other decaying matters, determine its commencement. It is for the most part excited by the presence of azotised matter in a state of decomposition. The oxidation of oils, alcohol, ethers, vege-

table juices, and solid animal and vegetable matters, are instances of eremacausis.

The decay of wood, and the formation of *humus*, consists in the slow combustion of its hydrogen by the oxygen of the atmosphere, carbonic acid, derived from the elements of the wood, being also given out. The contact of decaying wood, or wood in a state of eremacausis, causes fresh wood to assume the same action. The combustion of the hydrogen is the first stage in this series of changes. This must be complete before the oxygen of the air attacks the carbon.

The formation of acetic acid from alcohol is another instance of eremacausis, but the mere contact of the atmosphere is not sufficient to produce it. The alcohol must be mixed with some substance which readily enters into combination with the oxygen of the air, as a small quantity of beer, acescent wine, honey, or the like. Not that the latter substances contain any peculiar matter possessed of the property of exciting eremacausis, but their power consists in impressing the same action upon the atoms of alcohol which they are undergoing themselves.

*Alcohol* passes through the following succession of changes in the process of slow combustion, or oxidation:—

Alcohol.....$C_4 H_5 O, HO$
Aldehyde.....$C_4 H_3 O, HO$
Acetic acid ....$C_4 H_3 O_3 HO$
Formic acid ....$C_2 HO_3, HO$
Oxalic acid ....$C_2 O_3, HO$
Carbonic acid ..$C_1 O_2$.

"Aldehyde is alcohol minus hydrogen; acetic acid is formed by the direct union of aldehyde with oxygen; formic acid and water are formed by the union of acetic acid with oxygen; when all the hydrogen is removed from this formic acid, oxalic acid is produced; and the latter acid is converted into carbonic acid by uniting with an additional portion of oxygen." All these products appear to be formed simultaneously, but doubtless the changes are successive, and the carbonic acid, which is the last stage of oxidation, is not produced till all the hydrogen has been abstracted.

Acetic acid is thus produced from alcohol by the action of the oxygen of the air. The elements of one atom of alcohol absorb four atoms of oxygen—

$$C_4 H_5 O, HO + 4 O = C_4 H_3 O_3 HO + 2 HO;$$

water and acetic acid being formed without the disengagement of carbonic acid or any gas whatever.

In the eremacausis of azotised organic substances, which substances always contain carbon and hydrogen, the two latter elements having a greater affinity than nitrogen for oxygen, the nitrogen does not enter into direct combination with the oxygen, but is given out as ammonia in a gaseous form, the superior affinity of nitrogen for hydrogen here coming into play. Ammonia is always liberated on exposing moist azotised animal matter to the air. If the ammonia thus formed be further exposed to the action of oxygen, nitric acid and nitrate of ammonia are the results.

The process of eremacausis is very much modified by any chemical substance, and the final results are essentially influenced by the chemical nature of the bodies submitted to it. By the action of alkalies it is promoted. Thus, the addition of potash, in solution, to alcohol, facilitates the oxidation of the latter, with the formation of aldehyde and other compounds. The decay of woody fibre is also accelerated by the contact of alkalies and alkaline earths. When the latter substances are present during the eremacausis of azotised animal matter nitrates are formed with the other products of oxidation. But this is the final result, after a succession of actions, including the previous formation of ammonia. Many substances will not decay, although moistened with water, until brought into contact with an alkali, the smallest quantity of which being present, they acquire the property of attracting oxygen. The eremacausis of organic matter is retarded, or completely arrested, by those substances which prevent fermentation or putrefaction, as mineral acids, salts of mercury, aromatics, oil of turpentine, and empyreumatic oils.

*Fermentation*

is the generic term for another series of changes, comprising those transformations which evolve gaseous matters without odour. It is essentially a transposition of the elements of *one* complex compound, in contradistinction to putrefaction, which is a transposition of the atoms of *two* or *more* complex compounds. Fermentations occur in vegetable matters, and the peculiar decomposition to which sugar is liable, may be viewed as their type. They are usually excited by the contact of a small quantity of some substance in an active state of decomposition, called a *ferment*. The products newly formed contain either the same proportions of the component parts of the matter undergoing transformation, or an excess consisting of the constituents of water, but none of the elements of the substance exciting the fermentation.

When a solution of sugar is exposed to a temperature of from 70° to 80° Fah., a small quantity of yeast, or putrefying azotised matter, being added, part of the carbon of the sugar unites with the oxygen to form carbonic acid, and the remaining carbon with the hydrogen, to form alcohol, constituting the vinous fermentation. One atom of cane-sugar composed of

$$C_{12} H_{11} O_{11},$$

is resolved into

| | |
|---|---|
| Two atoms of alcohol ..... | $C_8\ H_{12}\ O_8$ |
| Four atoms of carbonic acid .. | $C_4\ \ \ O_4$ |
| | $C_{12}\ H_{12}\ O_{12}$ |

Accordingly, one equivalent of water is added to the elements of the sugar during the fermentation. The cane-sugar is first converted into grape-sugar.

When changes of this kind take place in a simple solution, as that of sugar, it constitutes mere fermentation, the whole of the matter being changed into new combinations less organic than sugar, without any reproduction of the ferment, and the latter, which excited the action, gradually disappears.

When, on the contrary, this action is excited by a ferment, in a solution of sugar, for instance, which also contains gluten, together with the fermentation, a reproduction of the ferment takes place, sometimes to the amount of twenty times its original weight. This leads us to a consideration of

*The nature of the ferment.*

Many organic substances which contain nitrogen appear to enter into an active state of metamorphosis spontaneously. But, however produced, substances in this state of fermentation, or putrefaction, possess the power of causing unlimited quantities of similar matters to pass into the same state; matter seeming thus to be converted into its like by the contact or action of other matters. Gluten, in an active state of decomposition, or, as it is called, yeast, is a well-known ferment. But yeast added to a solution of gluten alone will not reproduce itself. If, however, it be added to a solution of sugar containing gluten, it not only excites the fermentation of the sugar, but it excites in the gluten a molecular action similar to its own, and yeast is reproduced.

It is not the mere contact of the ferment that produces the fermentation, the latter is the consequence of the ferment being in a state of action, and since a ferment will not reproduce itself in a solution of gluten alone, the state of action or decomposition of the sugar must be essential to the reproduction of the ferment. Hence, fermentation in full force, that is to say, with the reproduction of the ferment, is a reciprocal molecular action between the ferment in action and the sugar in action, and this reciprocal action is again the cause of the reproduction of the ferment. Thus, although the reproduction of yeast in fermentation appears to resemble the production of seeds from seeds, the notion that it actually does so cannot for one moment be entertained.

The ferment is, in truth, a body in a state of eremacausis, or other transposition. It converts the oxygen of the air into carbonic acid, and equally sets free the carbon and oxygen of its own. Under water it continues to give out carbonic acid and, after some days, fœtid gas, and is ultimately transformed into a substance resembling decayed cheese, by which time it has entirely lost its active properties. Its activity is also destroyed at a boiling temperature, and by drying, and by the action of antiseptics. When a hot and clear solution of yeast is made in water, the insoluble residue will not excite fermentation, neither will the solution, if secured from the air; but the fermentation occurs freely when the ferment is left for some hours to the action of the air; proving that it is not the mere contact of the solution which produces the effect, but the state of activity of its molecules.

In simple fermentation, where there is no material for the reproduction of the ferment, when the quantity of the latter is too small in proportion to that of the sugar, its metamorphosis will be completed first, and a portion of sugar will remain unchanged. When, on the contrary, the quantity of ferment predominates, a portion will remain after all the sugar is fermented, and will induce fermentation in a fresh solution of sugar. Hence a certain quantity of ferment is necessary, not because it acts by its quantity as a solvent, or otherwise, but because its presence is required until the last atom of sugar becomes decomposed.

One of the most important circumstances respecting ferments, which has not been at all appreciated until recently, is the following. The nature of the products resulting from a fermentation depends upon the state of the animal matter which occasions it. The ferment itself is capable of passing through successive changes, and can excite different kinds of fermentation at its different stages. Thus, in the process of malting there is not one only, but a series of fermentations. By the action of *diastase*, the earliest state of the ferment, the starch is converted into sugar; in another stage of the ferment the sugar is converted into lactic acid; then *yeast* is produced, and with it the alcoholic fermentation. The same animal matter will sometimes pass rapidly through several stages of decomposition, producing different results. Hence it is always necessary to take into account the state of the ferment employed, and the changes which it undergoes during fermentation; without this precaution we may have the complicated products resulting from a series of ferments, each acting differently. The same ferment will not produce different fermentations. The truth and the importance of this is illustrated by the facts, that when a solution of diastase is left in a warm place for a few days, it undergoes a change by which it is rendered incapable of converting the starch into sugar, but produces lactic acid. Allow it to remain still longer, and instead of lactic acid it will produce alcohol, exhibiting the successive stages of one and the same ferment, and the different kind of products

which result from its molecular activity when placed in contact with a solution of the same organic substance. The elements of sugar assume totally different arrangements when excited to transposition by substances in a state of decomposition differing from that of yeast.

The panary fermentation is but little understood, but it must be complicated. A small quantity of ferment is added to flour-paste, which consists of gluten, albumen, starch, and sugar; changes analogous to those above occur, alcohol and carbonic acid, and afterwards acetic acid are produced, and the constitution of the flour completely altered.

According to Liebig the action of emulsion on amygdalin, and the production of oil of potatos, oil of corn, and of œnanthic ether, are so many fermentations.

Milk exposed to the air, in a warm room, separates into an acid liquid and a coagulum, the acid being formed at the expense of a part of the sugar, by the decomposing caseum, which acts as a ferment. The greater part of the sugar is prevented undergoing the fermentation by the precipitation of the ferment as a coagulum, in combination with the newly-formed acid. For the purpose of completing the metamorphosis of the sugar it is necessary to neutralise the acid with an alkali, when the ferment re-dissolves, and a fresh portion of acid is produced. This may be repeated until the whole of the sugar is converted into acid. This constitutes the *lactic* fermentation. It is probable that the sugar of milk, $C_{24}\ H_{19}\ O_{19} + 5\ HO$, is first converted into grape sugar, and the following formulæ will represent the transformation which afterwards occurs :—

1 eq. grape sugar, $C_{12}\ H_{12}\ O_{12}$

$$=$$

2 eq. lactic acid, $C_6\ H_5\ O_5 + 2\ HO$.

When the albumen or gluten in woody fibre goes into decomposition, water being present, and the air excluded or not, the decomposing action induces by contact a metamorphosis of the elements of the lignin, which the following formulæ represents. The woody fibre completely disappearing,

1 eq. Lignin, $C_{12}\ H_8\ O_8$
4 eq. Water, $H_4\ O_4$

$$C_{12}\ H_{12}\ O_{12}$$

forms

6 eq. Carbonic acid .... $C_6\ O_{12}$
6 eq. Carburetted hydrog. $C_6\ H_{12}$

$$C_{12}\ H_{12}\ O_{12}$$

*Putrefaction*

is a generic term for another series of these metamorphoses, or chemical transformations. It takes place only in a certain range of temperature, from about 60° to 90° or 100° Fah., and is constantly attended with a fœtid odour, produced by the emission of gaseous matters, different in different cases, and impregnated with various organic principles. The presence of air or oxygen gas is not necessary, but that of water absolutely so. It consists essentially of the combustion of the elements of two or more complex compounds of an organic substance at the expense of its own oxygen, or of that of the water with which it is associated. In the putrefaction of animal matters every trace of the original texture disappears. Its products are chiefly water, carbonic acid, ammonia, sulphuretted, phosphuretted, and carburetted hydrogen gases, and sometimes pure hydrogen, and probably nitrogen. Those substances which prevent eremacausis also interrupt putrefaction, in consequence of which they are called antiseptics.

When the action of the air upon a body in eremacausis is prevented by water, the body goes into a state of putrefaction; when, also, a body in eremacausis is subjected to an atmosphere of hydrogen, the putrefaction, with disengagement of carbonic acid gas, continues, a fact which proves that the conversion of carbon into carbonic acid is due to the oxygen of the body itself, and not to that of the air.

Liebig gives the following as the simplest type of the putrefactive process :—

By the addition of hydrated cyanic acid,

$$HO,\ Cy\ O = HO_2\ NC_2$$

to water,

$$HO,$$

an instantaneous change takes place, the oxygen of the cyanic acid and of the water combining with the carbon to form carbonic acid, and the hydrogen uniting with the nitrogen to form ammonia.

But where the products first formed undergo further changes putrefaction is much more complicated. The transformations of cyanogen $NC_2$ when added to water, illustrate this. At least eight totally different products are either simultaneously or successively produced, viz. :—

1. An insoluble compound of ammonia.
2, 3. Cyanic acid and hydrocyanic acid, by the decomposition of water.
$NC_2\ O$ and $NC_2\ H$.
4, 5. Oxalic acid and ammonia, by a complete disunion of its elements.
$C_2\ O_2 + 2\ HO$ and $NH_3$.
6. The cyanic acid combines with the free ammonia to form urea.
$C_2\ H_4\ N_2\ O_2$.
7, 8. The hydrocyanic acid is decomposed into a brown matter, and the decomposition of this produces urea. oxalic acid, and carbonic acid; its radicle also changes to ammonia and formic acid.
$HO,\ C_2\ HO_3$

This of course does not represent what actually occurs in putrefaction. The actions are much more complex.

Azotised materials of the living body, as the blood, also some vegetable juices, suffer a progressive alteration from the moment that they cease to belong to the economy, and that they are brought into contact with air and water. They enter first into eremacausis, and then into putrefaction. There are several stages. The combinations formed at the commencement disappear at the termination of the metamorphoses. Ultimately carbonic acid, ammonia, water, and a substance analogous to ulmine, are produced. It is animal matter in the progress of these changes which constitutes the various kinds of ferment before described.

Many vegetable juices to which yeast is added, at first ferment like a solution of sugar, carbonic acid gas and alcohol being formed. But at a temperature of 95° to 104° such juices undergo further transformations. Fœtid gases are emitted, the sugar and all the azotised compounds disappear. The nitrogen remains in the liquid as ammonia, and three new products are formed,—first, lactic acid, as before described, then mannite, and a mass resembling gum, which forms a thick viscous solution. These have been called the *lactic* and the *viscous* fermentations, but they are more properly putrefactions. The products weigh more than the sugar contained in the juice, and are formed by the interchange of the elements of the sugar with those of the foreign substances also present.

A piece of putrefying substance, in which eremacausis has been excited by the air and followed by putrefaction, put into an organic solution, excites its own action throughout the solution; hence a body may be generated by the action of the air upon a solution of organic matter, which body appears to have the power of reproducing itself, the air being thus closely connected with the reproductive power in question.

Eremacausis frequently precedes putrefaction, and bodies in fermentation fall into that change when there is a free access of air. The reason why animal substances enter most readily into putrefaction is the greater chemical differences of their constituent parts, and the greater complexity of their molecules. The new grouping depends exclusively upon the special chemical affinities for each other, as of their carbon and hydrogen, and the exclusive affinity of their azote for hydrogen. The products resemble those which are formed by the action of heat on organic matters in dry distillation, with this difference, that in the latter process the volatility or fixedness of the products exercises a greater influence over the results than in putrefaction. Putrefaction is thus a resolution of complicated organic principles into their more simple component parts, or into those binary and ternary compounds which constitute the inorganic world.

*The Part which Nitrogen Gas takes in these Transformations*

is one of the most remarkable circumstances attending them. In the inorganic world this element is the most indifferent of all, evincing no particular attraction for any of the other elements, and existing in the atmosphere almost entirely in a simple state of mechanical mixture. Bodies abstract oxygen from the atmosphere as readily as if no nitrogen were present, and the disposition which nitrogen has to separate from its compounds, and to reassume its simple state, is well exemplified in fulminating compounds, the ready explosion of which is unquestionably attributable to the presence of that element.

The peculiarity of nitrogen becomes manifest in the difficulty with which its union with oxygen is produced. The combustion of its compounds serve only to set it free. Rarely, indeed, this union may be effected by induction, by contact; thus, by burning cyanogen in oxygen gas, over a metallic oxide, heated to redness, the carbon, in the act of combination with the oxygen, occasionally induces the formation of an oxide of nitrogen. So also nitrogen gas, mixed with a large excess of hydrogen, if burned in a jet in oxygen gas, the combustion produces by induction the formation, not only of water, but of nitric acid also. (Fownes, Pharmaceutical Journal, No. 9, p. 484.)

But nitrogen has a much greater affinity for hydrogen than for any other element, and the interpretation given to the last-mentioned facts by Liebig is, that the formation of ammonia in all cases precedes the oxidation of the nitrogen, since ammonia is converted with the greatest facility into nitric acid. In nitrification at the surface of the earth, azotised matter first gives rise to the formation of ammonia, and then to nitric acid, the latter change being promoted by the affinity which exists between the two products.

Aware, then, of these peculiarities of nitrogen as an element, and, in particular, of its tendency to return to its simple state, we find that all the nitrogenised constituents of organic substances, animal and vegetable, enter into what is termed spontaneous putrefaction when exposed to moisture and a certain temperature; and, on the contrary, that bodies destitute of nitrogen do not possess this tendency to transformation. Throughout the whole of the transformations the nitrogen preserves its peculiar characters. Ferments consist in all cases of azotised matters in a state of decomposition, and their state of decomposition is attributable to the properties of the nitrogen which they contain. The peculiar odours which attend some of these changes are incidental and non-essential; they are produced by the sulphur and phosphorus which the metamorphosed materials contained.

I shall conclude this statement respecting nitrogen with the following quotations from Dr. Payne:—"It is certainly remarkable that nitrogen, which aids so powerfully in breaking up the elementary combinations of organic beings as soon as dead, should be made such an universal and so large an element in the organic kingdoms; and this the more so when it is considered that nitrogen is utterly excluded from all combinations in the inorganic world." "This evidently forms a strong characteristic distinction between the organic and inorganic kingdoms. In respect to the inorganic world, had nitrogen been incorporated in its compounds, there would have been no stability among them." "It irresistibly follows, that in organic bodies nitrogen is united by forces essentially different from the chemical forces, and, when the being dies, we obtain another and opposite demonstration of the fact in its immediate obedience to chemical laws." (Essay on Vitality, p. 33.)

The fact that Liebig refers digestion and the action of contagions, miasms, and other agents received into the blood, to metamorphoses that are analogous to those which have been described, sufficiently indicates the necessity for studying these phenomena, and the laws which regulate molecular changes in organic matter. To Liebig himself, Dumas, Wöhler, and others of the same school, we are indebted for the greater part of our knowledge of the subject, and from their published works, and a paper by Boutron and Fremy, in the 71st volume of the "Annales de Chem. et Phys.," the present abstract is chiefly derived.

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MENSTRUATION AND THE SEXUAL APPETITE.

M. Seguin speaks of a young woman, 27 years of age, of good constitution, and enjoying perfect health, with mammæ and the external parts of generation well developed, but destitute of an uterus, or any apparent rudiment of that organ. The vagina presented only a kind of shut sac, from an inch to an inch and a half in depth. The woman was married, and though coition could obviously only be effected imperfectly, she manifested no absence of sexual appetite. Nearly every month she experienced a slight increase of moisture in the genitals, but no menstrual or other discharge answering a similar end. The case is remarkable for several reasons. First, it proves that the proper development of the breasts, and of the sexual appetite, is not dependent upon the uterus; but it is probably connected with a perfect condition of the ovaries. Secondly, that the menstrual fluid is secreted by the uterus, and is absent with the absence of that organ. Thirdly, an unusual phenomenon is presented by a woman who enjoys good health without either menstruating or suffering suppository hæmorrhagic discharges.

## THE CHILD AND THE FUNIS.—PARTURITION OF PARAPLEGIC MOTHERS.

*To the Editor of* The Lancet.

Sir,—If I understand rightly Mr. Hunter, in The Lancet of Nov. 5th, page 207, it is his intention to show that it is *still* doubtful how far the duration of labour is influenced by the length of the funis. If so, I agree with him, judging both from his table and one that I made during my studentship at Guy's Hospital, as, indeed, I should be inclined *à priori* to reason, unless the cord were so short, or so twisted, as not to allow sufficient length for the child's entrance into the world. I see, in Mr. Hunter's list, very different periods occupied when the funes were of about the same length; and "quick" placed against the various lengths of 18, 27½, 22½, 19½ inches, &c. This disproportion agrees with my experience, so that I think it fair to conclude that it is at present by no means determined what effect the length of the funis has on the progress of labour, especially when allowing the latitude, in point of time, which your correspondent does, viz., from the call of the patient or the nurse. My list is not extensive. The longest cord mentioned in it was, I find, 36½ inches, and the shortest 13 inches. Where there were twins the length of the cords varied several inches.

While writing, I may as well mention a case of labour which I attended, also while at Guy's, and which has reference to a paragraph which appeared in The Lancet of Oct. 15th. After the remark of M. Chailly, that "still, paraplegia may impede regular uterine action, and render assistance necessary, and the same with hemiplegia," the reviewer (Brit. and For. Med. Review) says, "there is a paucity of information upon this subject in midwifery records. Recently, at a London hospital, a paraplegic woman went through labour without assistance or difficulty." Now I may be able to add a little to the stock. A woman, whom I attended twice in labour, was paraplegic (attributed by her mother to a fall, or fits, during infancy, I forget which), and went through each delivery without instrumental aid. The children, however, were small, and the second was premature. In the first, the presentation was "breech." The child lived some days, and then died in a half-nourished state. The mother had been, during pregnancy, the subject of venereal disease, contracted at marriage. The second labour was tedious, without anything, so far as I remember, worthy of remark, unless it be thought that the delay arose from defective nervous influence. This may possibly be the case mentioned by the reviewer, for a yearly report is drawn up at Guy's (by the indefatigable assistant-

accoucheur, Dr. Lever) of the cases attended from the large lying-in-charity of that institution. I am, &c.

RICHARD TURNER, M.R.C.S.

Tunbridge Wells, Nov. 8, 1842.

## INJURIOUS EFFECTS OF PROTRACTED SUCKLING.

MR. J. H. HORNE objects to the countenance which seems to be given in No. 1002 of THE LANCET, to the injurious practice of protracted suckling, by a correspondent, on the authority of his case-book, backed by quotations from Scripture, and the observances of the North American Indians. Mr. Horne insists that the plan is fraught with most dire misery to mankind. Mothers, he says, from suckling their offspring beyond the period of fourteen months, engender thereby the first seeds of frightful disease, frequently proving highly intractable, unless the patients are surrounded by the comforts of life, which do not fall to the lot of the many. The offspring is not benefitted by this sacrifice, but too frequently become pale and emaciated, backward on their feet, as it is termed, and slothful, and attacked by disease in the form of sores and cutaneous eruptions. The proper time of weaning, he adds, undoubtedly lies between ten and fourteen months. The practice, sanctioned from its correctness, adopted in selecting wet nurses is very opposite to that of allowing a nurse to suckle a second child, the first child being weaned at thirteen months. Extraordinary circumstances, not to be avoided, might permit it, but not recommend it. Rather give a child two young nurses; but not, unfettered, confine two children to one nurse, the first having all the cream before the second is born. It is the practice of cattle-breeders around London, where the milk is found to be the most profitable article, from custom, and without due thought, to wean the calves, and bring them up by hand, teaching them to feed early, and to drink from the pail. The result is, that the stock is stinted in growth, and too often weak and sickly. At parts which are remoter from the metropolis, and where how to raise the finest progeny is throughly understood, as to strength, size, symmetry, and beauty (obtaining these points just as a natural consequence follows a sound constitution), the calves are allowed one, two, and three mothers at a time, not stale milch cows, but cows that have lately calved. The consequence is, that calves of one year old, reared by the last method, are equal in size and weight to calves reared by the first method of eighteen months old.

ON THE HEALTHFUL INFLUENCE

## OF EVEN TEMPERATURE AND ADEQUATE CLOTHING.

*To the Editor of* THE LANCET.

SIR,—Having just perused, with very great interest, Sir George Lefevre's remarks on the benefits to be derived from "chamber warmth and protecting raiment," I trust you will excuse my troubling you with a few brief observations, which may not be wholly useless to the scientific reader who has not before happened to consider the subject; although, possibly, of little value, beyond the mere record of simple facts, to the professional peruser.

Every one who has resided in the country must be aware that the autumnal moult of the inferior animals takes place just in time to meet the atmospheric vicissitudes of the seasonal change, when *damp chills* and *unsteady temperature*, with the decomposition of vegetable substances, are the great causes of disease; and that the new coats of hair or feathers are always thicker than those of the vernal season. Most people make no change, however, in their clothing, until the approach of the hard frosts of winter, which are far less dangerous than aerial vicissitudes. Some years ago, having thirteen pupils under my care, requiring more or less attention in respect of health, I determined, as far as lay in my power, to follow the guidance of nature. When I saw our domestic animals unconsciously assuming their winter raiment, I, therefore, ordered all who had flannel vests to put them on. Seven, who were thus provided with the means of *timely protection*, escaped all colds then prevalent; but the remainder had, without exception, bilious and feverish attacks—of no importance, it is true, with timely medical aid, and rational attention to medical advice on my own part, but which might have been more serious had they not met prompt care. Since that period I have succeeded in prevailing on most parents to allow their children, under my superintendence, to wear flannel or calico next the skin during the summer, varying their upper clothing according to the state of the weather. The Russians of St. Petersburg are as careful to avoid summer chills as winter cold. In the summer of 1824, I remember, during most delightful weather, upwards of sixty men of the corps in which I then served being in hospital, or on the sick-list, at Edinburgh Castle, out of a garrison of about four hundred. On inquiry, we found the men slept with their windows open, and were in the habit of running out of their rooms, early in the morning, to fetch water, &c., very imperfectly dressed. Orders were instantly given to the sentries to prevent these practices, and we soon had a clean bill of health. One of the hardiest and most athletic and active

men I have met, a Cornish sportsman, always wore flannel throughout the year; and I have known experienced fox-hunters—even *Irish fox-hunters*—use the same precaution, a class of men not the most delicate. Baglivi mentions finding fevers more tractable during summer, in his native Italy; and unless I am wholly misinformed, fever is more prevalent in St. Petersburg during part of the winter season than in the summer season.

Strangers have, in general, a most extraordinary opinion of the climate of the Torbay district. As I have resided in London and Carlisle, at different periods of my life, I am enabled to form a comparative estimate of the climates of those localities, and that of South Devon, which are all very diverse; and I certainly am not sensible of any detriment accruing from summer heat to the natives of this vicinity; nor can any one who has seen the South Devon and Cornish militias of former days, or the Brixham, Mount's Bay, and Penzance fishermen of the present, think unfavourably of the west of England. The fact is, we here enjoy, like all sheltered spots on the sea side, an *equable temperature, warmer in winter, and more temperate in summer, than inland localities.* Torquay, even last summer, was much more cool than Canada and Newfoundland generally are at the same season; and persons not acquainted with the fact of the sea giving out latent heat will possibly be surprised to hear that in some parts of the island of Mull, gardeners do not think it necessary to protect their rhubarb beds from the effects of cold.* *An even temperature, and a dry soil* are, in very different latitudes, highly conducive to health. Norway, Bosnia, some of the desert regions of Arabia, the Cape of Good Hope, and the Island of Ithaca, will all furnish proofs of my assertion. A backsmith in South Devon, Cumberland, Ayrshire, or in the most boggy midland county of Ireland, is very much the same looking personage; and I never observed that summer or winter made any marked difference to the swart and sinewy artisan of *the rural forge; nor am I aware of the thick clothing and waterproof boots* of our Torbay fishermen, or the similar costume of their brethren on the coast of Normandy, rendering them a delicate and effeminate race.

If these simple and desultory observations should in the least tend to aid in dissipating our national *thermophobia*, and lead to the study of that most useful and much-neglected branch of science, *physical geography*, I shall feel that my very humble efforts to do some little good have not been in vain, and have the honour to be, Sir, your very obedient servant,

J. A. Walker,
Lieut. H.P., 34th Regt.

Cliff House, Torquay, Devon,
Nov. 18, 1842.

P.S. The maximum temperature of my school-room, in the hottest periods of last summer, was 74°, with open ventilators; during winter, with a small fire, the mean temperature is about 60°, the fire often being dispensed with *during the middle of the day*, from the beginning of November to the verge of Christmas. The means used to preserve this equilibrium are simple to rudeness, and have only cost a few shillings. I believe, in the past summer, the thermometer in Paris and London, and many parts of Germany, stood 14° and upwards above ours in the shade, at least in our higher villas.

* In summer this heat is not given out; but the sea-breeze by day, and the land-breeze by night, present a much more enjoyable temperature *alongshore* than is to be found in most inland districts.

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RECOVERY FROM

## EXCESSIVE DEPRESSION AFTER CHILD-BIRTH.

*To the Editor of* The Lancet.

Sir,—In The Lancet for August 6, 1842, a fatal case of placental presentation is related by a general practitioner, in which the scrupulous attention paid to the patient was very praiseworthy, and the treatment corresponded with the usual practice of the day. But his description of the case induces me to state that in every similar occurrence of death-like sinking after parturition, whether accompanied with hæmorrhage or otherwise, recovery has taken place in my practice by the following treatment:—From a drachm to two drachms of laudanum, according to the severity of the case, is given to the patient in a wineglassful of undiluted spirit, cold, and these are followed by a second and a third glassful of spirit in as quick succession as the patient can swallow them. A fourth, and even a fifth glass of spirit, is requisite in cases of extreme depression, especially where much blood has been lost. In numerous instances I have followed the above practice with uniform success. As the power of swallowing is retained in a remarkable degree, even in the most depressed cases, these internal means may all be administered in fifteen or twenty minutes; the loss of time is the loss of the patient's life. Some sneer at administering so large quantities of laudanum and spirits, but without them many cases of this description must and do really perish. Even in less appalling instances the same mode of treatment prevents that febrile reaction which often cuts off the patient at a more remote period. At the same time that these internal means are

administered, a free current of cold air is to be admitted into the apartment, the hands should be plunged into a basin of cold water, and the face sprinkled with the same. A firm bandage should be applied around the abdomen, and, should the placenta be retained, or coagulated blood distend the uterus, it should be removed by the introduction of the hand. By these means the patient will soon show symptoms of recovery. The cold should then be lessened, and warmth gradually restored. Unless when the stomach is previously diseased, incapacitating it for retaining the usual remedial means, my experience warrants me to state that scarcely can a case occur the recovery of which will be resisted by the above mode of treatment. I am, Sir, your obedient servant,

JOHN CRAIG.

Paisley, Nov. 8, 1842.

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## TREATMENT OF INSANE PERSONS WHO REFUSE TO EAT.

## PATHOLOGY OF THE DISTASTE FOR FOOD.

*To the Editor of* THE LANCET.

SIR,—THE LANCET of Nov. 12 (page 255) having conveyed to your correspondent a brief statement of the methods adopted in the management of maniacal and suicidal cases, I now enter on the third head of his interrogations, namely, the treatment of patients who obstinately refuse food. On this point I confess myself to be incapable of detailing the practice adopted by others, and shall, therefore, confine my observations to the principles which have always appeared to me to be important as a guide to our practice in such cases; and, first, let me remark, that in the treatment of insanity, as in the treatment of every other disease, we are too apt to overlook the cause of the prominent and distressing symptom that we are called upon to alleviate. We are too apt to direct our remedies against a mere effect instead of attacking the cause of it. The refusal of food by the insane is an effect following several conditions of the system. In one case it may arise from peculiar hallucinations, which forbid the patient to touch food, although he have a strong desire for it. In another, it may arise from an apathetic condition of the digestive organs; and, in a third, from a desire to destroy life, by totally abstaining from food and drink.

The physician who is guided in his practice by scientific principles will endeavour to discover the cause of the affection, and will direct his remedies accordingly. He will not at once proceed to attack and overcome a mere effect. I conceive it has hitherto been too generally the custom, in the treatment of this class of cases, to lose no time in forcing food into the stomach of the patient, without reflecting on the condition of the nervous system, or the state of the digestive organs.

In my own practice I have rarely been driven to the disagreeable necessity of using the stomach-pump In several cases the shower bath has proved a most valuable agent in dispelling the hallucinations which lead to a resistance of food. The first time that I had recourse to this remedy was in a patient, feeble and emaciated to such a degree that although I wished to produce a shock on his system by means of the sudden application of water to the surface, yet I dreaded the effect of a common shower-bath, and, accordingly, I merely employed a little *warm* water, from a common garden watering can. The effect was decidedly beneficial. In subsequent cases I have employed the same means, and, in general, the result has been such as to induce me to recommend the practice strongly. Where there is a full amount of vigour in the circulation a cold shower-bath is to be preferred, but where the powers of the system are enfeebled it will be desirable to use the warm shower-bath; and if there be a degree of congestion and feeble action in the capillary vessels (a condition frequently noticed in this class of cases), a handful of salt added to the water will give tone to the circulation on the surface.

Amongst the causes of the refusal of food I have enumerated a diminished power of the abdominal organs. In every case of this description, therefore, it becomes us at once to direct our attention to the condition of the digestive apparatus. At first, much positive and immediate advantage will arise from remedying any defective condition of the stomach, liver, or intestines; and it ought never to be forgotten, that at the commencement of the affection we are enabled to employ means that are more powerful in their operation than can be put in force at a more advanced period, when the whole system has become so enfeebled as to preclude the use of vigorous measures.

In directing our attention to this class of organs it is of the first importance to ascertain the state of the excretions, both as to the quantity and quality, and to proceed at once to the correction of any depraved condition, by suitable remedies. For instance, if this unpleasant symptom arise in a patient whose bowels are constipated, the administration of a smart cathartic will have the effect of sharpening his appetite, and thus his resistance of food will be greatly diminished. So favourable an opinion have I of the effect of purgatives in the class of cases under consideration, that I recommend their use in nearly every case. Even in one of long standing, where the patient has perseveringly abstained from food, and although there may have been daily evacuations fro n

the bowels, I have seen much benefit arise from the use of gentle purgatives. Moreover, let me remark, that even when there appears to be so great a degree of debility that the administration of a purgative might, by causing still greater debility, prove injurious, the reverse will, I have reason to think, be generally found to result. Instead of the apprehended collapse, we shall have the gratification of observing some evidence of the restoration of a more healthy and vigorous function.

We have no difficulty in comprehending how a smart cathartic, at an early period of the affection, is of benefit, but it is not easy to conceive how purgation can have a similar effect in an exhausted state of the system. It is a point deserving an attempt at explanation, and might possibly be dwelt upon at some length with advantage, but as such a course would be foreign to the design of this letter, I shall, although under fear of being imperfectly understood, dismiss the subject in as few words as possible. Abstraction of food must cause impairment of the function of nutrition. There cannot be the usual amount of new matter deposited in the various tissues of the body; but although there be not a due supply of new particles, it is presumable that there is no diminution in the separation of the old, and that the usual amount of cast-off particles circulates in the blood, awaiting their discharge from the system by the excretory organs. Diminution of food necessarily causes a diminution in the passage of matter through the intestinal canal, consequently the discharge of particles separated from the various tissues, and destined to be expelled from the system, is in a great measure impeded. The detention of such matters, either in the blood-vessels or in the intestinal tube, will exercise, I imagine, a poisonous influence, and cause a low and typhoid condition of the whole animal economy. All the functions will be feebly performed, and amongst the rest the appetite for food will be destroyed.

Such being my views of the pathological condition, I believe the following to be the *rationale* of the practice that I am now recommending, in the case of patients who are much reduced, and in whom there are also many symptoms of a low febrile condition, namely, that by the administration of gentle purgatives we cause the discharge of those matters which have been accumulating in the intestinal tube, and have been exercising a depressing influence on all the functions of the body.

So much of my time, and, I fear, of your space, has been occupied by the foregoing considerations that I must omit to notice the various devices which a good tactitian will not fail to put in force in conjunction with his other remedies. I am, Sir, faithfully yours,

G. L.

November 14, 1842.

## NATURE AND TREATMENT OF SPLENTS IN HORSES.

*To the Editor of* THE LANCET.

Sir,—In THE LANCET for Nov. 5th, page 223, there is a quotation from the "Veterinarian" on the cure of splents in horses; but, lest an injudicious use of the means therein proposed for the cure of splents should occur, I consider it of some importance to your readers (two-thirds of whom are probably interested in that noble and, to us, indispensable animal, the horse) to offer you some observations on the nature and treatment of this *disease*, as it is miscalled.*

*Nature of the affection.*—If the reader will take the trouble to examine the shank, or cannon bone, of a four-year old horse which has done no work, he will find two thin, or splent, bones attached one on each side of the cannon bone, and running parallel with it. Tracing them from their small end upwards, their heads will be found to form a portion of the knee-joint, especially on the inner side; for the head of that splent-bone being larger than the other, it offers a more extensive articulating surface for the small bones (analogous to the human carpus) which compose the joint, and therefore "splents" are usually found on the inner side of the legs.

The natural bond of union between the cannon and splent-bones is an elastic membraniform substance, intended to abate the shock which might otherwise be given to the shaft of this bone by the rapid movements of the animal, and, consequently, to the sensitive parts of the inferior joints.

I should premise, that all young bones, or bones which, from the youth of the animal, cannot have received their due form, are much more vascular than adult bones. Let us now imagine the legs of this colt to be over-weighted by a rider, to be taken from the turf whereon he was foaled, and made to travel, week after week, at a quick pace, along a turnpike road. What would any reader expect to be the result? An inflammatory action in the vessels of both fore-legs; an attempt on the part of the vis medicatrix naturæ to defend the long cannon bone from being injuriously jarred, by strengthening its sides. Periosteal and ossific matter become poured out from and about the elastic intervening material of the cannon and splent bones, and especially the inner one, from its greater share in the formation of the knee-joint. The periosteum becomes distended by this new and foreign substance, stretched, and forming a band upon it, and is soon rendered very tender; and this is the first sign the owner generally has of the approaching splent. Within six months, if

* Here is a "wrinkle" for veterinarians, in a *medical* journal, as well as for every surgeon who keeps his horse.—*Lancet.*

the horse continue his work, that which was at first periosteal and fibrinous becomes ossific, uniting the splent and cannon bone together, and forming, in truth, nature's additional splent, attached in a manner to the moveable bones, which laughs to scorn our adjustment of splents on a fracture. Will the reader now discard his horse as unsound, *diseased;* or will he not rather admire the protecting power of nature, which she has so ingeniously employed to defend a dumb animal from the unreasonable treatment of a reasoning and talking one?

If I have succeeded in pointing out correctly the nature of this so-called *disease*, would it not be better to leave our horse in wiser hands than our own, and take the boon of the splent in lieu of inflammation of the feet and small joints? When the horse has arrived at seven or eight years old, nature has usually done with the old splent, and it becomes absorbed; if not, this deposit may be removed in two or three months by the application of a very simple liniment.

*Its treatment.*—Instruct your groom to rub, night and morning, during five minutes, into a circle of two inches from the centre of the splent, enough of the following liniment* to thoroughly wet the hair; in a few days some scurf will be seen amongst the hair of the part; let him then proceed with the liniment, with caution, turning the hair against its course to observe if the skin is giving off a little moisture; if so, discontinue the rubbing until the skin is become dry; re-commence and re-omit the infrication according to the state of the skin. The removal of the eye-sore called "splent" will be effected probably within the above period. I have removed a splent of old standing in a horse aged 14 within three months by this means. Now it becomes necessary to say, were the treatment by binding on lead, as mentioned in your former number, to be adopted in the supposed case of this colt's splent, inflammation of a more serious character would, in all probability, be thereby excited, I have witnessed this disaster in one well-marked case, and I have heard of it in others, and it is with the hope of preventing my favourite animal from being unnecessarily tortured by such treatment, and, in short, for the cause of philipposity, which induces me to trouble you with this communication.

The splent, or, rather, the exostosis, mentioned in the "Veterinarian," is a very different affection from the above, though easily mistaken for it. In that *disease*, occasioned by natural malposition of the horse's fore-legs, or from bad shoeing, he strikes one or both cannon bones with his hoofs or shoes, and that is the origin of this misnamed splent. Here, again, the above treatment will suffice for its removal, defending the leg during the cure with an India-rubber boot. But the lead compress is a clumsy, useless, and probably dangerous application; still it may be tried when the liniment fails, which will seldom happen.

I have now acquitted myself of my kindly intention towards my equine companions for these twenty years, and in their name I solicit forgiveness for having thus far intruded on your valuable pages.

T. Chirurgus.

Worcester, Nov. 12, 1842.

* ℞ *Oil of origanum, oil of turpentine*, of each, ℥j; *rectified spirits of wine*, ℥ss. Mix. Make a liniment.

## PREVENTION OF SORE NIPPLES.

*To the Editor.*—Sir: I think that sore nipples would seldom occur did mothers pursue the plan which I always advise to my female friends on occasions of suckling, namely, after the child has left the breast to wipe the nipple very dry, and apply to it a piece of linen cloth. I have had much practice amongst the ladies for the last twelve years, and never had a case of sore nipple where this plan was adopted. Although it may appear to be a trifling communication, yet trifles are not to be despised, especially in the obstetric department of medicine; they lead to more practical advantage than a great deal of the theoretical nonsense of the present age. Your obedient servant,

T. C. Wood, M.R.C.S., L.A.C.
Surgeon to the Reading Dispensary.
London-street, Reading,
Nov. 1842.

### THE COURSES ON ANATOMY.

Within the last few years a silent change has been admitted in the anatomico-physiological studies in the medical schools, and though there are still, I understand, some schools where the old arrangement prevails, the improvement is of such obvious convenience that it can scarcely fail to be ultimately adopted by all. The alteration referred to is that of associating, on the one hand, under the title of "descriptive and surgical anatomy," the *larger* anatomy of the body, with its relations to the casualties and operations of practical surgery, and, on the other, as "general anatomy and physiology," the *smaller*, the intimate structure of parts, with the laws of their growth and living functions. The useful tendency of this change would be most completely accomplished, and the latter course rendered both more philosophical and more practical, if it were made utterly to avoid distributive anatomy (which it should suppose already learned), and to include general pathology and the history of morbid products.—*Mr. J. Simon on Medical Education.*

THE LANCET.

*London, Saturday, November* 26, 1842.

THE newspapers published in Staffordshire have informed the public that in consequence of the death of one of the late Coroners for that county, an application had been made to the Lord CHANCELLOR for the purpose of obtaining from his lordship writs for the election of *two* Coroners, one being an addition to the number which had previously existed. It would also appear, from the same journals, that the CHANCELLOR was likely to direct that the county should be divided into new districts, each Coroner being restricted, in the exercise of his functions, within the limits which might be apportioned to him.

The subject is evidently a new one to these writers, or they would have known that the law has not conferred upon the CHANCELLOR any such power as he has been called upon to exercise in this instance. He cannot confine the duties of any Coroner to a *division* of any county, the functions of every county-coroner extending (excepting, as we have already stated, in the counties palatine), throughout the limits of the entire county. At the same time, it is quite true that on the death of a county-coroner the CHANCELLOR can issue writs for the election of two Coroners instead of one, but even that power, be it observed, is an example of authority arising rather from an omission in the statute than from any directions or instructions which the Act embodies on the subject. It is a power which, we believe, has been exercised only in two instances in this country. The cases which called for its application were special and peculiar, and the writs then were not issued without serious doubts being entertained of the propriety of the course which was taken. The applications were *not opposed*, and there were no complaining parties. Had there been, it is pretty nearly certain that the writs would not have been granted. We are not acquainted with the feelings which exist on this question in Staffordshire, but if there be any persons in that county who consider that the issuing of two writs is not required,—that there is no necessity for an *additional* Coroner in Staffordshire,—then the CHANCELLOR should be memorialised by those persons, setting forth the grounds of their opposition, and praying to be heard by counsel on the subject. They should acquaint the CHANCELLOR that the sense of the county has not been taken on the proposition,—that the freeholders, generally, have not been consulted; that the SHERIFF has not held a county-court, after due notice to the freeholders, to consider of such a question, and that therefore the application to his lordship, praying for the issuing of a writ for the election of an additional Coroner, was certainly the result of a private arrangement, and, possibly, of a party intrigue. The magistrates of Middlesex, in 1839, on the death of the late Mr. STIRLING, adopted a proceeding somewhat similar to the one now taken by certain of the justices in Staffordshire. A counter-application was immediately made to Lord COTTENHAM, who was the then Chancellor, and the facts, as above described, were fully explained. What was the result? Lord COTTENHAM declined to act upon the memorial of the magistrates, and the petition of some fifteen or twenty freeholders. We feel confident that the Lord Chancellor LYNDHURST would make a similar decision on the present occasion, and refuse to interfere unless he clearly understood that the inhabitants of the county desired, generally, that an additional Coroner should be elected. If the SHERIFF were to call a county meeting, by advertisement, in which it was announced that the freeholders were to determine whether a petition should be presented or not to the Lord CHANCELLOR, praying his lordship to issue a writ for the election of an additional Coroner for the county, and such a proposal were carried in the affirmative, then, undoubtedly, both the statute law and public convenience would justify the learned judge in complying with a request which

had been thus made to him. On all legal and constitutional grounds, no objection could be taken to such a proceeding; but the authority of the CHANCELLOR cannot legitimately be exercised in such a case, unless the voice of the county has been previously heard at a county-court, regularly presided over by the proper officer,—the SHERIFF. Confident are we that Lord Chancellor LYNDHURST, viewing the question on strictly legal and constitutional grounds, will maintain a precisely similar opinion. The decision of Lord COTTENHAM, in the Middlesex case (1839), is admitted by all lawyers to have been legally and morally just. It produced the most lively satisfaction throughout the county, and gave offence only to a factious clique, who had designed, by a paltry manœuvre, to nullify the rights of the great body of the freeholders.

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EVEN with the utmost economy of space that can be practised in conducting a public journal, occasions frequently occur which manifest the insufficiency of every care that is taken to insure room and verge enough within its boundaries for the fulfilment of all its legitimate purposes. Such an one presents itself to us just now with regard to the publication in our columns of a paper that was recently presented to the Philosophical Society of Glasgow, by the section of that institution which specially investigates questions in physiology, on "*The best Means of Supplying the Poor with Cheap and Nutritious Food.*" The paper has been printed by the Society amongst its proceedings. The reporter who prepared the document is not announced, but Dr. R. D. THOMSON, who read it to the Society, was, we have no doubt, also its author. An abridgment of its contents is impracticable. The original abounds in matter from which nothing can be rejected without damage to the whole, though a brief summary of the contents may be given at the same time that we mention its appearance in the last part of the "Transactions" of the Society, where it worthily occupies the pages from 28 to 41, doubtless being purchasable through the agency of any bookseller or publisher. No subject of greater interest could engage public attention at this moment, when the common horrors of want are about to be increased by the cold of winter. Dr. THOMSON's paper, then, is a most seasonable gift from science to poverty. It is deplorable that in this country there should still exist a law to keep up the price of wheat; in other words, to deprive millions of the poor of the "cheapest and most nutritious food;" for the soils which should be devoted to the production of animal food are engrossed by corn, and kept by the greedy law of monopoly in a secondary state of cultivation. At one of the late "great" agricultural gatherings, a farmer told the present Prime Minister that the agriculturists did not want the new-fangled "scientific improvements." "What," he asked, "will be "their effect? They will enable us to pro-"duce more, and to bring more wheat and "cattle to the market, the effect of which, "we all know, will be a reduction of prices." Tenants would not argue thus, had not the landlords at their back a law which, acting through the landowners upon the farmers, renders corn a more profitable object of growth than cattle. That law secures to the landowners of Great Britain a monopoly in the feeding with corn of the hungry millions around them. The *farmers* would themselves obtain greater comparative profits without the law, but then they could not place enormous rents in the coffers of the landlords, the law upholding the price of bread by preventing a free-trade in corn. The human constitution allows to man scarcely a week between him and death by starvation; and even *scantiness* of food is the most prolific source of disease in this country. How horrible the fact, that to "sell and *get gain*" is the only proceeding in relation to food which our laws are framed to maintain. There should be no *profit* on *food*. The cost and trouble of its production and distribution should form the only objects of remuneration. That was the law of MOSES, the first of legislators.

There is, we fear, but little hope that a perfectly open trade in all articles of food will be yielded to the people of this great kingdom for a long time to come. In the meantime such papers as that of Dr. THOMSON become remarkably prominent in value, otherwise we might well be ashamed to devote attention to the subject. Of all mean things excessive economy and niggardliness in food is the meanest. "How to make much of little" should be applicable to any substances before bread and meat; for those being perishable articles cannot be

saved to extremities with advantage. Indeed, to self-encourage absolutely unnecessary stinginess in food, is to foster at the same time the most unsocial, unkindly, ungenerous, and non-ennobling qualities of the heart.

Dr. THOMSON's paper contains a lucid account of all the investigations (his own among the number) which have recently been made in the dietetic branch of animal chemistry. He first discusses the question whether vegetable or animal food is the most proper diet for man, and decides that the palm for *nutrition* belongs to the vegetable, all animal matter being only vegetable in a modified form. But for a diet in cold countries he awards the preference to animal, because in animal matter more carbon is condensed, and carbon forms, with oxygen, the basis of bodily heat. Dr. THOMSON then describes the relative nutritive qualities of vegetables, respecting which we subjoin a short and useful passage, several of the articles named being afterwards enlarged on by items, with remarks on the ill effects and diseases produced, especially in some districts of Scotland, by a meagre vegetable diet :—

"*Relative Nutritive Power of Vegetables.*—To Boussingault we are indebted for an elaborate series of experiments on the quantity of azote in vegetables, which may be presented in a tabular form, so as to exhibit the equivalent nutritive power of each vegetable, as indicated by the quantity of azote. Unity represents the most nutritious substances, and is considered equal to the larger numbers. (*Annal. de Chim.*, vol. lxiii.)

| | |
|---|---|
| White French beans | 100 |
| Yellow peas | 120 |
| Flour of cabbage | 148 |
| Flour of carrots | 170 |
| Flour of wheat | 175 |
| Wheat | 191 |
| French wheat | 193 |
| Rye | 200 |
| Oats | 210 |
| Flour of barley-meal | 212 |
| Potato flour | 225 |
| Barley | 232 |
| Indian corn | 246 |
| Potatos | 1096 |
| Carrots | 1351 |
| White cabbage | 1446 |
| Turnips | 2383 |

"This table is read thus:—100 parts of white French beans are equal to 200 parts of yellow peas, or 2383 parts of turnips, in supporting the strength and vigour of animals fed upon them. The one may be as nourishing as the other, if a sufficient quantity is taken. If a person were accustomed to use 1¾ lbs. of wheat flour for his support during a certain period, and his diet were changed to potatos, he would require 11 lbs. of the latter vegetable to sustain the same degree of vigour. This is a most important fact, because it proves that if the body, though fed, is not *sufficiently* fed, starvation may ensue.

"These are what may be deemed the theoretical indications of nutritive power, but they agree in such a close manner with the practical numbers, deduced by agriculturists who have derived their facts from feeding cattle, that there can be little doubt, at least, of the practical value of the table."

He then details the relative digestible qualities of animal food, and here suggests an improvement on the Messrs. D'ARCET's process for procuring food, by high steam pressure, from bones, Dr. THOMSON obtaining 14½ per cent. from them. Next he discusses some important questions in bread-making, and shows how to prepare, produce, and cook food very cheaply, concluding with a valuable report from Mr. ANDREW LIDDLE, treasurer to the Night Asylum for the Houseless Poor of Glasgow, where many of the recommendations of Dr. THOMSON have been carried into operation. In this report Mr. LIDDLE supplies three recipes for meals, prepared at the following small costs, "none having been more relished by the partakers," and all being "very savoury." The first is "*fish-pudding*," an abundant meal for ten persons, at 1s. 5d. cost for all the ten (exclusive of fire and cooking), or 1½d. for each guest. The second is "*a stewed hash of sheep's draught*" for ten persons, at 1s. 6d. the whole. The third is "*a mince of cow's heart*" for ten persons, at 1s. 4d. the whole dish. "Cut up and wash well; mince very "small; add onions, flour, pepper, salt; "stew for two hours." Add, GOOD CHARITY, any other right-flavouring thing that you can cast in, and the sweet sauce of *welcome*. The very words of direction rise savoury before the olfactory nerves of the imagination.

Our professional brethren, who detect so much of starvation that is miscalled "disease," should make known in their districts the labours of Dr. THOMSON and Mr. LIDDLE. Happy England, when the rich need not to study economy in food for the poor!

By the by, in all the discussions on the "corn question," and in the dietetic regulations of public institutions, little or no attention has hitherto been paid to the relative *nutritive* qualities of different species of

food, or of different varieties of the same species. The question of food is not one of bulk alone, but of *chemical composition*. The five pounds of rice eaten at a meal by a negro may not contain so much of essential nutrient principles as one pound of good wheaten bread, consumed at once, by an English peasant. In some important tables that lie before us, which we have received with the manuscript of Mr. ANCELL's fourth paper on LIEBIG, we observe that according to a series of analyses made many years ago by VAUQUELIN, and the only ones extant that are to be depended on, one sample of wheat may contain twice as much *gluten* and *albumen* as another sample, those two principles forming incomparably the most nutritious parts of the seed, and, in fact, being regarded by the most modern chemists as the *only* substances which wheat contains that is capable of nourishing the animal structures. The following are the proportions of gluten and albumen per cent. contained in three samples of foreign wheat :—

| | |
|---|---|
| Hard Odessa ..... | 14.55 |
| Soft Odessa..... | 7.30 |
| Paris bakers' ..... | 10.20 |

It is surprising that we have no analysis of *English* wheat. Extraordinary, in fact, it is, that wheat should be bought and sold, and made into bread, and consumed, without any further reference to its *quality* than the vague criterion of its general appearance to the eye, and its effect upon the sense of touch. The question, we believe, has never been mooted,—What is the relative value *in nourishment* between a quarter of English-grown wheat and a quarter of foreign wheat of any particular description? It is quite vague to say that the one is better than the other. The point must be decided by *analysing* and *weighing*. In fact, the whole question of diet demands much more consideration than it has yet received. Upon an examination of the very valuable papers which we have already received for publication from Mr. ANCELL, we are induced to think that this neglect will before long be so forcibly impressed on the minds of our medical readers, as to stimulate many of them to the task of inquiry, in one or other of its branches. The main thing to be borne in mind is, that various constituents of food answer *different* purposes in the animal economy,—some for the nutrition of the muscular and nervous structures, some for that of skin and bone, some for the formation of bile, &c.; but the subject is too long for further discussion in this page.

## EQUIVALENTS OF FRENCH AND ENGLISH MEASURES.

A CORRESPONDENT last week (page 302) judiciously complained of the frequent use of the French decimal measures by some English medical writers, who omitted the equivalents in English measurement. This literary vice we deprecate as much as our correspondent, whose arguments need not be repeated here. We may in general attribute the neglect to the indolence, and not the ignorance, of the translators, though its effect is often to render the statements in question unintelligible to those who are not acquainted with the new French system of admeasurement. Having data sufficient at hand, to give here some information on the subject may be acceptable to the medical public, both for present examination and future reference, and we therefore at once supply it :—

| | English Inch. |
|---|---|
| The millimetre (thousandth part of a metre) | = 0.039 or $\frac{1}{26}$ |
| The centimetre (hundredth do.) | = 0.394 or $\frac{2}{5}$ |
| The decimetre (tenth, do.) | = 3.937 or 4 |
| The metre | = 39.371 or nearly 39$\frac{1}{3}$ inches,—say 1$\frac{1}{9}$ English yard. |

The decametre, hectametre, and kilometre, are respectively 10, 100, and 1000 metres.

The French inch (ordinary measure) is a trifle longer than our own, being equivalent to 1.066 English inch.

| | |
|---|---|
| The French foot | = 12.078 |
| The French toise = 6 feet English | 4.735 |
| or 2 yards | 2.131 |

The anne is equal to 1$\frac{1}{4}$ English yard.

As respects weights and measures of capacity :—

| | Ounce Troy. Grain. |
|---|---|
| The milligramme | = 0.000032 or $\frac{1}{66}$ |
| The centigramme | = 0.00032 or $\frac{1}{6}$ |
| The decigramme | = 0.0032 or 1$\frac{1}{2}$ |
| The gramme | = 0.032 or 15$\frac{1}{2}$ |

But we may, in general, calculate, roundly, the gramme at 15 grains, or a quarter of a drachm. There are decagrammes and hectogrammes. The kilogramme, a weight in considerable use, is equivalent to 2.68, or 2$\frac{3}{4}$ lbs. troy, or to 2$\frac{1}{5}$ lbs. avoirdupois.

| | Imp. Gall. Imp. Quart. |
|---|---|
| The litre | = 0.22 or about $\frac{7}{8}$ |
| The hectolitre | = 22. or 2$\frac{3}{4}$ imp. bush. |

The above equivalents have been mostly de-

rived from Sanders's Tables of French and English Measures, a laborious but clear and comprehensible little compendium, published many years ago, we believe by Messrs. Baldwin and Co., of Paternoster-row.

## ISSUE OF ANOTHER REFORM URGED IN "THE LANCET."

*To the Editor of* The Lancet.

Sir,—In the number to which you last week referred me, I find Dr. Finch claiming as his own, not a *total* abolition of instrumental restraint in his establishment at Laverstock-house, but a *per centage* of exemption from such means of coercion. I ground my claim to the "total abolition of instrumental restraint," upon the fact of its abolition in the Lincoln Asylum, under my superintendence, in January, 1837. True, in one single case since the above date, viz., in April, 1840, a patient was instrumentally restrained for about eighteen hours, but that was through circumstances solely imputable to a disorganised state of the staff of attendants, and not to any failure in the system, when carried out in the manner laid down in my lecture delivered on June 21, 1838, and published in April, 1839. I still wait for a pre-claimant to the system of *totally* abolishing instrumental restraint in the management of the insane.

And now, Mr. Editor, allow me to congratulate yourself and the public, and especially the insane, upon the happy turn which the debate upon this subject, occupying so many of your pages, has at length taken. Instead of hearing any longer of the impracticability, the futility, or the absurdity of the system, which was denominated by its opponents "Utopian," "speculative," "peculative," &c. &c., you have actually in the field competitors for the honour of the invention.

I have the satisfaction of being enabled to add, that since the discontinuance of mechanical restraint in the Lincoln Asylum instances of death from maniacal exhaustion, previously not uncommon, have ceased, and patients now no longer die under the gripe of the iron handcuff, as the records of the institution indelibly show that they used to do. I am, Sir, your obedient and obliged servant,

Robert Gardiner Hill.

Lincoln, Nov. 20, 1842.

*Observations on the Expediency of Abolishing Mechanical Restraint in the Treatment of the Insane in Lunatic Asylums.* By John Crawford, M.D., late House-surgeon to the Glasgow Asylum. London: Highley, 1842. Pp. 36.

There is but one journal written in the English language which has from first to last incessantly and unweariedly maintained the efficiency of the system of passive restraint in the care of insane patients, as a substitute for the brutal. That journal is The Lancet, and the above pamphlet is a compliment to the determination and success of our advocacy of the plan. The handsome and generous manner in which our worthy disciple has, amongst his other references, adverted to this fact, and this prompt acknowledgment of the honour, are equally calculated to make the blood mount into our cheeks and tingle in his own. As the "Observations" are too long for us to quote more than here and there a passage, we must be content at present with extracting the concluding summary, and the interesting fact which follows it:—

"In conclusion, then, we repeat, that in properly conducted institutions for the insane, not only is restraint not required, but it is positively injurious; and that not only can it be safely dispensed with, but the abolition of it secures advantages which are perfectly unattainable under any other system. And it must not be forgotten, that while the results of actual experiment attest the truth of these assertions—the experiment, successful and convincing as it has been, has not hitherto been instituted except under circumstances of great disadvantage. It has been impeded and embarrassed, because the institutions in which it has been tried were not originally constructed with a view to the plan; and, consequently, however skilful and zealous those at the head of such establishments have been, and however successful they have shown themselves in devising expedients to obviate the difficulties against which they have to contend, still, these obstacles have prevented the plan from having had a fair trial. But if it has been so successful, when so many difficulties have been necessarily thrown in the way of its working, there can be no doubt of its complete and triumphant success when practised in asylums whose construction is adapted to it.

"It is a just subject of congratulation to Glasgow, that, in this respect, we are about to set an example to the civilised world; and that the noble institution now in the course of erection, is the first which has ever been constructed expressly with a view to the entire abolition of restraint. The

New Royal Asylum of Glasgow, when under the management of the able and enlightened physician under whose eye all its details have been planned, will not only afford a model of an hospital for the insane, but also constitute an object of the greatest interest to every friend of humanity."

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A FEW MORE CONFESSIONS—in favour of medical reform,—its special need in the hospitals,—fell from the pen of RODERICK last week. The other day, under the screw of truth, there was extorted from him an elaborate declaration in favour of *private tuition* in medicine, *versus* the "recognised courses." Now, he speaks thus of one of the consequences which have so frequently and earnestly been denounced by the independent medical press as an inevitable result of the prevailing system of appointment and management of the hospitals of this country:—

"It may be asked from what sources statistical information (in medicine) is to be obtained most easily, and with the greatest degree of certainty? The answer to this would, of course, be—from *the hospitals*, large and small, in various parts of the kingdom. At the same time we are compelled to say that this soil, so excellent in quality, *has been allowed to lie comparatively fallow and unproductive*. Rarely do we see a statistical report *at all* of the cases admitted into a hospital, and, still less frequently, any thing like an *accurate or serviceable one*."

"It is deplorable to reflect on the great mass of information which in these institutions is literally *squandered away*, for the want of a little management and a *little trouble* in collecting it. It is true we have of late seen, now and then, in the public journals, a *solitary report or two* from the medical officer of an infirmary or hospital, and we rejoice at being able to allude *even to these few feeble attempts*, as they show that a feeling is beginning to arise of the propriety, we may *almost* say duty, of those persons who are connected with institutions of this sort collecting and rendering available the scattered materials they present."

"Some such principle as an uniform method of registering cases is *sadly required in the metropolitan hospitals*, for they have perhaps been comparatively *less productive than any others* of information of this sort."

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## WESTMINSTER MEDICAL SOCIETY.

*Saturday, Nov. 5*, 1842.

Mr. H. J. JOHNSON, President.

A PRESIDENT, vice-president, and ten members of committee, were elected this evening, viz.:—Dr. Reid, Dr. Willis; and Drs. F. Bird, Guy, and Griffiths, Messrs. Alcock, Brooke, Dunn, Hancock, Lucas, Lavies, and Snow. Messrs. E. J. Chance and J. F. Clarke were re-elected secretaries.

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### SCHIRRUS OF THE RECTUM—CONSTIPATION FOR FORTY-FIVE DAYS.

Dr. JAMES JOHNSON related the following case, which had terminated fatally that day. The patient, a medical man, about forty-five years of age, had resided in London about eighteen months, with the intention of practising there instead of in the country. Until forty-five days ago he suffered only from occasional spasms of the bowels, the spasms having nothing peculiar in them. His bowels were regular. During the last forty-five days of his life there was no evacuation whatever from the bowels, although every means had been resorted to by Mr. Lane and Dr. Sims to produce such action. About a fortnight before death he (Dr. Johnson) joined in consultation. The patient had then severe spasmodic pains in the abdomen, with almost constant vomiting. His stomach seldom retained anything, the ingesta being either brought up immediately, or two or three hours after being swallowed. None of the matter, however, vomited up, exhibited the slightest stercoraceous character. To afford relief croton-oil, bleeding, and croton-oil injections were used, among other means, and Dr. O'Beirne's tube, which, however, could not be passed up any distance, and seldom more than half a pint of fluid, and never more than a pint, could be injected. During the whole of this time the distension of the bowels increased, and his extreme sufferings were only occasionally relieved by the internal use of opium and by opiate frictions over the abdomen. Five days before death, at his own urgent request, half a pound of fluid mercury was administered to him. This produced no perceptible effect at the time, but the next day he was seized with spasms in the abdomen. The constipation remained. On one occasion his agony from the distended abdomen was so great that he begged it might be punctured to give him relief. He died on that morning at eight o'clock, and at four in the afternoon of the same day the body was examined. The tympanitis was enormous. On opening the abdomen there were scarcely any signs of inflammation having existed; there was no effusion, and the convolutions of the intestines were not adherent to each other. The dilatation of the intestines was very great; the colon was as large as the colon of a horse, and the other intestines were of proportionate magnitude. The diaphragm was thrust up to a remarkable height, and the stomach was so contracted that it was discovered with difficulty. The gall-bladder contained a few fluid drachms of bile. On following the intestines nothing was discoverable but wind. Not the slightest trace of the quicksilver which had been swallowed five days

before could be seen, but in the sigmoid flexure of the colon was a dark, tarry-like substance, having a very peculiar odour, but neither in appearance nor in smell like a fæcal collection. No globules of mercury could be detected in it. The cause of the obstruction was found at the junction of the sigmoid flexure with the rectum, in which situation was a dense white scirrhus, surrounding the intestine for the space of three-quarters of an inch, and so completely closing the passage, that although the colon above was enormously distended with flatus, not the smallest quantity of air could be made to pass the stricture. The case was remarkable from the cause of the forty-five days constipation being *disease*. When constipation was a habit the bowels might be inactive for a longer period, but he (Dr. J.) had never before known such protracted constipation dependent on disease. The longest period under such circumstances, that he had witnessed, was eighteen or twenty days at most. It was curious that no sign of the quicksilver beside that mentioned could be discovered. He suspected that during the five days that the mercury was in the intestines it had been converted by their convulsive action into the ointment-like substance referred to. It was also singular that the mercury produced no effect on the mouth or breath. Another remarkable circumstance was the absence of difficulty in passing the motions until the setting in of the constipation. The scirrhus must have been going on for years. How could we explain the sudden and permanent closure of the intestine?

Dr. Reid recollected a curious case which was in St. Giles's Infirmary some time since. The patient, when brought in, was almost pulseless, and his skin cold, and he suffered much from dyspnœa. He complained of pain over the lower part of the abdomen, which was not tympanitic. Constipation had continued for three or four days. There was no sign of a hernia. All the remedies employed were of no effect. Up to the nineteenth day he rejected all he took, when the sickness gave way after a three-drop dose of croton-oil. On the twenty-first day there was a very copious fæcal evacuation, the discharge at first consisting of hardened scybalæ, but becoming subsequently of the natural consistence. Had there been intussusception in this case, suddenly giving way? There was no impaction in the rectum.

Dr. J. Johnson—There was a great difference between Dr. Reid's case and his own. There could not have been a mechanical obstruction in Dr. Reid's case.

Mr. Dunn—Would the operation proposed by Amussat have availed in Dr. Johnson's case? Amussat recommended the formation of an artificial anus in that part of the descending colon which was not covered by peritoneum, in obstruction of the sigmoid flexure of the colon and disease of the rectum.

Dr. Johnson—The point of obstruction was not discoverable during life, and if the operation of Amussat *had* been performed would the patient have recovered? Regarding the effects of remedies in the case he had related, he might mention that when castor-oil and croton-oil were applied externally the patient experienced tormina and all the other symptoms which result from croton-oil taken internally. Might not this fact suggest the use of croton-oil externally in some cases in which the obstruction did not depend, as in this instance, on a mechanical cause?

## ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Nov. 8th. Dr. Williams, President.—This was the first meeting of the session, and a very crowded one. The visitors grumbled much at being kept waiting in an ante-room, until allowed to enter, in a kind of raff, some time after the members themselves had made a selection of places.

### PARALYSIS, WITHOUT LOSS OF SENSATION, FROM DISEASE OF THE CERVICAL MEDULLA.

Dr. John Webster described a case under this title. As considerable attention had recently been directed to affections of the nervous system, especially since the important discoveries of Sir C. Bell and other physiologists have thrown much light on those intricate questions, any new facts on the subject must always possess interest, even if they should not clear up some of the difficulties that embarrass it. With the view, therefore, of contributing some, the author brought forward the following case of a gentleman who had been his patient for several years. W. H. G., aged 36, in 1836, had a phagedenic ulcer of the left leg, which got well after some months, but again broke out in 1839, when he had also a large chronic ulcer on the posterior pharynx of some duration, but not of a syphilitic character. He had pains in the head, with very costive bowels, during the greater part of the year 1839. In January, 1840, epileptic attacks, with very slow pulse, supervened, and in the spring following he had spasmodic contractions of the lower limbs, accompanied by a sense of weakness in the back; latterly he lost the use of his legs, and ultimately the entire control over every muscle situated lower than the neck. During the last twelve months of his life the entire body was paralysed, excepting the head, neck, and diaphragm, by which breathing was entirely carried on, and not by the muscles of the chest. However, sensation remained perfectly natural throughout the surface of the body. Indeed, towards the

termination of the disease the patient's feelings were even more acute than usual, and he could always tell, on the slightest touch of a bystander's finger, the exact spot to which it was applied. Severe spasmodic twitchings of the legs and arms were now more frequently noticed than before, and these were sometimes so violent as to almost throw him off his couch. The extremities were often very cold, but occasionally they felt also burning hot, with a sensation of excessive coldness in the epigastrium. The urine was drawn off by the catheter for many months, but latterly it passed involuntarily, as did likewise the fæces. All the symptoms continued unabated in violence to the last, and the patient died in July, 1842, retaining his intellectual faculties perfect up to the hour of death. Medicine had had very little influence in arresting the disease, although the treatment may have relieved the severity of some of the symptoms. The remedies consisted principally of purgatives, mercury, sarsaparilla, hydriodate of potassa, strychnia, and morphia, to procure sleep or allay spasm. Other means were also used, but that which appeared to produce most benefit was active purging, and the tincture of cantharides, taken as a diuretic, at the same time that a copious discharge was kept up, for many months consecutively, from two large issues in the nape of the neck. Nothing particular was found in the head, excepting that the arachnoid membrane over the pons varolii adhered to the parietal layer of that tissue, and about two ounces of serum were found in the ventricles; but there was no tumour or change of structure either in the brain or the cerebellum. The thoracic and abdominal viscera were healthy, with the exception of the bladder, which was much contracted in size, and thickened in its coats, whilst the omentum and some of the small intestines adhered to its surface. On opening the spinal canal the theca corresponding to the three or four lower cervical vertebræ was found much distended; the arachnoid cavity was filled with lymph, and there were adhesions of the membranes to the cord, which appeared firmer at the anterior than at the posterior portion, and the parts were inseparable. The cord itself was larger than usual at that particular point, and felt soft and pulpy to the touch, and, on being divided, it was found to be in an almost diffluent state, infiltrated with serum, but of a natural colour. For the extent of half an inch above this point the cord exhibited a dusky-red colour, but there was no difference observable betwixt the two columns, both being alike softened and discoloured; the parts above and below being perfectly healthy, and of a natural appearance. The spasmodic twitchings were more violent during the latter part of the patient's life, particularly the last six months. He (Dr. W.) had once thought that the deep ulcer of the pharynx had some influence in producing the spinal disease, but there was no disease of the intervening vertebræ to support that opinion, strengthened, nevertheless, by an examination which he had made of a case in St. George's Hospital, under Dr. Seymour, where an ulcer in the pharynx was followed by disease of the cervical medulla, but the bones being implicated in the mischief no doubt was left of the connection between the throat disease and that of the medulla. The case which he (Dr. W.) had brought before the society was not sufficiently explained by the views of the nervous system at present taken by physiologists. In a case of much interest, mentioned to him by M. Foville, during a recent visit to Paris, all the phenomena were explained by the injury inflicted. A policeman, attempting to quell a riot in the streets of that city, in August, 1840, received what he thought a heavy blow on the nape of the neck, which knocked him down. He fell on his right side but could not rise, as he had complete paralysis of the right leg, but incomplete in the right arm, with a sense of weight and tingling in that member. Sensation was perfect in those parts, and respiration natural. Four days afterwards he became delirious, the pulse beat irregularly, the respiration was oppressed, and the paralysis and sensation remained as before. Four days and a half from the day of the accident he died, and on examination the mark of a small wound was found where the blow had been received, but quite healed. At the sixth cervical vertebra the point of a broken knife was found, which had penetrated into the arachnoid canal, and directing itself downwards, and to the left, had cut quite through the right antero-lateral column of the cord, and the point of the knife was found sticking fast in the seventh cervical vertebra. In his own (Dr. W's.) case the patient perspired freely during health, but never in the course of his long illness, and, notwithstanding the large quantity of mercury used externally and internally, no effect was produced by it on his system.

Mr. Solly: The softening found in this case might have taken place very shortly before death, and been the result of inflammation. I have noticed, in some cases of spine disease, an abnormal sensibility of the skin.

Mr. Shaw: Sensation and motion being both lost in cases of paralysis, an exception to the rule occurs. Probably the anatomy of the cord would explain Dr. Webster's case. The nerves of the anterior columns of the cord arise quite superficially, and do not seem to dip into its substance, whilst the nerves of the posterior columns can be traced into their substance, and seem to attach themselves to the lateral columns, between the anterior and posterior ones. Might there not in this case have been more pres-

sure on the more superficial anterior roots of the nerves?

Mr. B. Cooper: After all, may not the loss of voluntary power have depended on disease of the brain?

Dr. C. J. B. Williams was acquainted with some particulars of the case,—the patient was an intimate friend, and he could negative the idea proposed by the last speaker, for volition was unimpaired, and voluntary motion perfect in all parts of the head, face, and neck, although so completely lost in the greater part of the trunk and extremities. A remarkable feature in the case had been omitted. At one time the respiration was performed only by the diaphragm, and at that time the patient lost the power of coughing, and could scarcely expectorate. Afterwards the power over the intercostal muscles and the muscles of the upper parts of the chest, was regained, probably by a restoration of the functions of the accessory nerve of Willis. He (Dr. Williams) did not view the case as one of so anomalous a kind as the author of the paper had represented it to be. The suspension of voluntary motion whilst the sensation remained entire was the common event after lesions of the nervous system, whether in the brain, the medulla, or the nerves. Even artificial pressure of a nerve of a limb impaired the power of motion, whilst it caused increased sensations in the limb. Thus, whether the lesion found in the present case impaired voluntary motion most because that was the highest endowment of nervous structure, or whether it had that effect in the manner suggested by Mr. Shaw, pressing more on the more superficial anterior roots of the nerves, —the result was not an unusual one. He agreed with Mr. Solly that the softening might have taken place shortly before death, but as the patient was anæmic to an extreme degree, he thought it more probable that the softening was the result of the pressure, and an insufficient supply of blood, than of inflammation, particularly as no sign of recent inflammation was found. Some of the most troublesome symptoms experienced by the patient were the result of reflex action.

Mr. Tatum asked, and Dr. Webster admitted, that the membranes of the brain might have been affected at an early period, when there were convulsive fits like those of epilepsy, but even in these the convulsions were caused by irritation of the medulla.

Dr. Weatherhead thought that the only method of arriving at any safe physiological conclusions respecting this interesting case was to keep in mind the sequence of the symptoms that had reference to all the motive powers, and not to confine our views to those referrible solely to the *voluntary* muscles. It was true the history of the case showed that the loss of power commenced in the latter, but it was to be recollected that by-and-by the muscles which partake of a mixed nature, that is, those that are both voluntary and involuntary in their action, came eventually to be involved in the paralytic attack, as was evidenced by the breathing coming to be performed by the diaphragm alone, and by the constipated state of the bowels, which the doctor was inclined to attribute in part to the paralysis affecting the muscular fasciculi of the intestines, thus diminishing their peristaltic action; as well as the paralysis that affected the abdominal muscles, which, by their alternate contractions and relaxations in respiration, so greatly assist those of the muscular fasciculi of the bowels themselves in protruding the fæces. Next, the muscular fasciculi of the bladder lost their power, for the urine was obliged to be drawn off by the catheter. Finally, the heart itself was included in this now general palsy of the motive powers, as shown by the great slowness of the pulse; and even the coldness of the surface that latterly supervened he (Dr. W.) was disposed to ascribe to the same general cause, viz., a partial paralysis of the capillaries. It was by carefully reviewing those various muscular phenomena that any physiological explanation of their origin and cause could be arrived at; and he left it to those whose daily avocations made them more conversant with the origin and connection of the nerves than he could pretend to, to anatomically elucidate the order and relation of their sequence.

Mr. Cæsar Hawkins thought it advisable to refer to other properties of the nerves of the spinal cord besides those of sensation and voluntary motion, since the deprivation of them by accident or disease of the spinal cord was frequently the real cause of the patient's death. Three or four of these properties were conveyed by the sensitive nerves, while, as sensation was nearly unimpaired in the case before the society, none of these properties were at all injured by the long paralysis of the body below the neck. One of these effects of injuries and diseases of the whole spinal cord, was an alteration of the secretion of the kidneys, so that the urine became speedily alkaline, and loaded with mucus and pus, and the bladder and ureters, and finally the kidneys, became disorganised; and of such disease of the urinary organs the patient frequently died. He knew, indeed, that it was commonly supposed that the alkaline state of the urine was the consequence of the retention of urine in the bladder, and of the secretion of mucus by that viscus, created by the irritation of the alkaline urine on its coats. This might sometimes be the case, but often the urine became steadily alkaline without any secretion of mucus whatever, as in a case recently published by him in the Society's Transactions, of cancer of the spine; and that it was *not* the result of confinement in the bladder could be proved by the experiment of washing out that viscus till there was no reaction

on litmus paper, and then, as soon as a few drops of water came down from the kidney, testing it again, when it would be found to be alkaline. Another effect of injuries and diseases of the spine was the alteration of the power of resisting changes of temperature. Another was the impaired nutrition of the parts, so that every part pressed upon or slightly injured would ulcerate or slough. The bladder, from the same cause also, would appear to rapidly inflame and slough. All these properties belonged, he thought, to the posterior columns of the spinal cord, and were not noticed in the case before the society; neither were they in similar cases of mere paralysis. That they belonged to the sensitive part of the spinal marrow was rendered probable also by the analogy of injuries and diseases of nerves. In cases of partial paralysis they were not observed, but let a person cut his ulnar nerve, so as to numb the little finger, the finger could not touch a cold metal without ulcerating and sloughing. An interesting case had been published by Mr. Earle, of painful affection of the finger, in which the same thing was observed after the ulnar nerve was cut across above the elbow; the temperature was also permanently materially lessened. It might be observed that the same sloughing and ulceration were constantly observed, if the sensitive fifth nerve was diseased or cut across in the eye and nose, the more delicate parts supplied by this nerve, even without injury of any kind, as the spontaneous effect of the loss of nervous power.

Mr. Blizard Curling agreed with Mr. Hawkins that the urine remained natural in cases of paraplegia in which motion was lost but sensibility remained unimpaired, as he had witnessed in more than one instance in which this was the case after injuries of the spine producing loss of motion but not of sensation. He differed from him, however, with respect to the urine being secreted of an alkaline quality when both sensation and motion were destroyed, as he believed that in these cases the urine was secreted in its natural state, and that its properties afterwards became changed in the bladder. A few years ago he published some experiments made in cases of fracture of the spine which fully satisfied him on that point. In certain of the cases in which the urine was voided in an ammoniacal state, after well washing out the bladder, he had found the urine which was drawn off soon after its arrival from the kidney to be distinctly acid. Mr. Luke had performed a similar experiment with the same result in the case of a female, which was particularly favourable for the experiment. He had also tested the urine found in the bladder and pelvis of the kidney after death from fracture of the spine, and where it had been alkaline in the bladder it was acid in the kidney.

Mr. Hawkins admitted that the alkaline state of the urine was not universal; but allowing for those cases in which the secretion remained acid until death, and for those in which the alkaline condition resulted from disease in the bladder, there were cases, as proved by washing out the bladder, in which it was secreted alkaline from the kidneys.

Mr. Curling merely alluded to the early stage of the cases under discussion. When the kidneys were affected they were secondarily so, after the patient had survived the injury some time.

Mr. Coulson said that the question of the condition of the urine in affections of the spine was one of much importance, for in the majority of cases of injury of the spine, and in many cases of disease, the state of the bladder was the immediate cause of death. If it happened that the urine was secreted alkaline, owing to imperfect nervous power influencing the kidneys, then the utmost care of the surgeon would, in all probability, be unavailing to prevent the morbid changes taking place in the bladder; on the other hand, if the urine were secreted and became alkaline from the impaired function of the bladder itself, then the chances of preventing mischief of this organ, and prolonging life, were more cheering. With respect to the state of the spinal cord in cases where the power of motion, and even sensation, were gone, nothing could be more unsatisfactory than the appearances found after death. He had examined some cases of this kind: in one he had found softening of the spinal cord; in another, effusion of serum between the membranes; but in other cases he could detect no morbid appearances whatever, either in the spinal cord or its membranes; indeed, so uncertain was it, as compared with the number of these cases, to find changes in the cord, that one excellent pathologist had, in consequence, maintained that the ligaments of the spine, in paraplegia, were the parts most frequently affected.*

Mr. Paget remarked that the case of Dr. Webster seemed to be fairly explicable by the results of some of the experiments of Dr. Van Deen of Utrecht. He had shown that, by division of the posterior columns of the cord, the transmission of impressions of sensation made on the parts below the seat of division was not prevented, and that that transmission might take place through the grey matter of the cord. But with respect to the impressions of the will, the case was different; for the same experiments showed that these could not be conveyed through the grey matter of the cord, but only through the anterior columns. In the present case, it was said, all the white matter of the lower cervical portion of the cord was softened.

* This allusion had reference, probably, to Mr. Key's paper on the subject in the "Guy's Hospital Reports."—Rep. L.

The state of the grey matter was not mentioned; but assuming that it could discharge its functions, then the impressions to produce sensation might be conveyed through it, and sensation would be perfect, but motion would be lost, because the influence of the will could be conveyed only through the anterior columns. The reflex motion of the lower part of the trunk would also, as they were in this case, be perfect; for these might be conveyed from the posterior to the anterior columns through the grey matter of the cord.

Mr. ARNOTT inquired of the author of the paper where the phagedenic ulcer of the throat was situated, whether on the posterior part of the pharynx or on the tonsil, and having learnt that it was in the former situation, he remarked that this might explain the origin of the disease in the membranes of the spinal marrow. He had seen a similar case, where this had arisen from a phagedenic ulcer on the back of the pharynx having involved the periosteum covering the anterior part of the bodies of the vertebræ; and this corresponded with what is observed elsewhere in the body, where disease of the medullary membrane may follow upon that of the periosteum without the intervening bone being affected. In reference to the slowness of the pulse which had occurred in the progress of the case, he had hoped that the examination of the body would have afforded some confirmation, or otherwise, to a very interesting instance of the kind which had been read to the Society two years ago, by Mr. Holberton, where it took place to a great degree three years after a fall, and where the number of beats had been reduced to even seven and eight in a minute, but where there was no paralysis. In that case thickening of the membrane covering the upper and front part of the spinal marrow had been found on dissection, with narrowing of the opening of the atlas and occipital bones in their antero-posterior diameter. Mr. A. had also found Henle referring to some experiments which went to show that the only part of the spinal marrow, irritation of which disturbed the heart's action, was the anterior surface of its upper part, from between the third and fourth cervical vertebræ below up to the pons varolii. The loss of motion might have depended on the disease of the membranes, and he was disposed to think, with Dr. Williams, that softening might take place in a very short time. He (Mr. A.) could not agree in the opinion expressed by the chairman that this case upset all our ideas as to the function of the spinal marrow. And when we considered that the nervous fibres in the spinal marrow were continuous, that a very few fibres were sufficient to maintain the function when pressure or diseased change took place slowly; and further, that in this case there had been but a rude examination of a very delicate tissue, he could not attach much importance to it. There ought to have been a microscopic examination of the parts.

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The Medico-Chirurgical Society met on Tuesday evening last, Nov. 22nd, and was occupied with a discussion on a case of amputation of the leg performed during an alleged "mesmeric" trance, at Nottingham. There was a larger number of members present on that occasion than has been known for many years at this society, and the proceedings, which were devoured with the greatest apparent interest, were attended by all the professed "mesmerisers" in London, and some from the provinces; a great number of persons, indeed, could not obtain admission. The opinions of Sir B. Brodie, Dr. M. Hall, Dr. Mayo, Mr. Arnott, the President, Mr. R. Alcock, Dr. Truman, and others, respecting the "sleep," were expressed with force against its reality. On the other side, Dr. Elliotson was the chief speaker. We shall next week report the paper and debate.

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## VETERINARY MEDICAL ASSOCIATION.

Mr. SPOONER, Assistant-Professor, in the chair.

THE ART IN ENGLAND AND AMERICA.—PROPOSED CHARTER.

Nov. 7th, 1842.—The report, read by the secretary, Mr. MORTON, exhibited a most flourishing state of the association. The number of members had considerably increased; many new pathological preparations had been presented, and the accumulation of valuable papers and essays had rendered the separate "Transactions" of the association a necessary feature of the society's proceedings. The first volume of the "Transactions," edited by the secretary, is now before the veterinary profession.

The prizes for essays on various practical subjects had called forth some excellent papers from the students of the association. Among the novelties referred to in the report were the successful results of tapping in hydropericarditis; gonorrhœa in the bull; extraction of the filaria oculi, by Mr. Spooner; the influence of iodine on morbid and normal products; removal of a portion of the skull of a dog; calculus in the urinary bladder, &c.

Prizes were presented to the following practitioners:—Mr. Hugh Ferguson, of Dublin, for the best essay on blood-letting and its effects, and Mr. Greaves, of Manchester, for an essay on the same subject.

A pupil's prize was then presented to Mr. P. B. Ferguson, for an essay on diuretic agents.

Honorary certificates were presented to Mr. Titchmarsh, of Hockrell, for an essay on enteritis; Mr. Pratt, of London, for his essay

on red water; Mr. T. W. Mayer, of Newcastle, for his essay on fractures; Mr. Stevenson, for an essay on bone and its diseases; Mr. Shorten, for an essay on the abnormal condition of the teeth; Mr. Ernes, for translations of papers from foreign medical periodicals.

By giving these details we enable our medical brethren to see how busy and useful in the walks of science are the labourers, in this country, in what may (since we have got a branch called comparative *anatomy*) be termed comparative medicine. Place the attention paid in England to veterinary science, obviously indicated in the foregoing particulars, in contrast with the sluggard neglect of the art in America. A correspondent of Mr. Youatt (writing from Cortland, in the state of New York, September 10th, last), begging for his opinion on the nature and treatment of a disastrous disease prevailing among cattle in the United States, which is considered there to be "analogous to the dry gangrene which has prevailed at various times, in different countries, among human subjects, and to be produced by the same cause, viz., *ergot*," abounding in the spear-grass of that country, makes the following candid confession, which we copy from the "Veterinarian," for Nov. p. 623:—

"Every imaginable cause is assigned for this disease in our country, every imaginable remedy is resorted to. I should blush for the absurdity of some of the latter, were it not that I learn from your work on Cattle (in the Farmer's Series), that such absurdities are not confined to the United States. But I may remark that practical veterinary science is yet in its infancy in this country. We have the ignorant, the pretending, the superstitious cowleech, a genus, I suppose, existing in every country; but anything like a class of educated and intelligent veterinary surgeons is not to be found in the United States. There may be occasional instances of skilful practitioners in our larger cities, but they are little known and little consulted by our people. Every man, gentle or simple, is his own farrier. If his horse be sick he resorts to the nostrums of the 'horse doctor;' or, armed with your work, or that of Mr. Blaine, he decides and prescribes 'by the book.' If his cows are diseased your work on Cattle is generally resorted to by those who go beyond the authority of the cowleech. In my own yard I have been able to call in no other authority for many years."

The annual oration at the present meeting of the association was delivered by Mr. Thomas Turner. Its publication would require more space than we can afford to devote to that purpose. The same impediment will not exist, however, with regard to a few extracts on a matter relating to the public position of the veterinarians as a body. No surgeon who keeps a horse, or loves a dog, or even keeps a family parrot, or takes pleasure in a zoological garden, can fail to feel an interest in the affairs of the educated veterinarians.

Mr. Turner compares the past and present condition of his branch of knowledge, and asks, Are we, or ought we to be regarded as, "a profession," in consequence of our belonging to "the veterinary art?"

"I use the word *art*, not *profession*, because I am informed on authority that our's is not legally a profession, and is not acknowledged as such by other professions, excepting by the medical. The late pride of the medical profession (Sir Astley Cooper) has already conferred upon us an *honorary* stamp, styling our's the *sister science*, both publicly and privately; and to the friendly relationship of the medical profession we owe one and all of its members a debt of everlasting gratitude. They have been free in their expressions of gratification, whilst in the society of the veterinarian, and listening to a point of science which has interested them, and have been too generous to withhold their meed of praise for the information thus obtained. Indeed, lovers of horses, of all grades and conditions in life, both respect and estimate our art, but the uninitiated in such matters do not exactly know our position, and at present very much question our *right* of professional acceptance. Permit me here to detail an occurrence which happened to me in the summer of last year. Having to attend at the Warwick sessions as prosecutor of a man who stole two horses from a field of mine at Croydon, and for which the offender was sentenced to transportation, the counsel for the prosecution addressed the bench for my expenses as a professional man, whose time was in much demand by the public. The chairman's reply was, 'Had Mr. Turner's profession been acknowledged, as other professions are, I should have had pleasure in making him (and the county would have sanctioned the same) a pecuniary allowance; but that not being the case, it is out of my power to allow him a sum beyond that of an ordinary witness, viz., five shillings per day.' I immediately made my bow to the court, and, as you may all fairly conclude, not quite upon good terms with my position, and but a few minutes rolled away after this scene ere the thought struck me, that had we been a chartered body I should have escaped this apparent indignity. Indeed, only a few months prior to my visit at Warwick, such an advance had been made in furtherance of this, our common cause; but in the midst of our expectations we received a communication from the Home Office, stating that the charter of the veterinary surgeons was for the present in abeyance, though not that our application was rejected. In a few weeks after this the then administration gave place to the one now in power. But on the 22nd

of April last a deputation of veterinary surgeons, accompanied by Mr. Kemble and Mr. Antrobus, the members for Surrey, waited upon Sir James Graham on the subject, and the result of that interview will form an epoch in our history, and deservedly so, when we consider that an application for a charter was made by our parent institution, about forty years ago, to the late Earl of Eldon, when lord chancellor, who dismissed it summarily, with 'You shall not have a charter.'"

Mr. Turner adds, that the interview with Sir James lasted an hour, and that he hopes for success in the application.

## THE ABDOMINAL AORTA TIED.

*To the Editor of* THE LANCET.

SIR,—I send you a short notice of a case of ligature of the abdominal aorta, extracted from a letter of a non-medical friend residing at Rio de Janeiro. In the absence of a more detailed statement, it will, I doubt not, be acceptable to your readers. Yours faithfully,

JAMES HILL.

Peckham House, Surrey,
Nov. 21, 1842.

The following statement is derived from an article in the *Jornal de Commercio*, August 7, 1842:—"On Friday, July 5th, at No. 31, Rua das Violas, the abdominal aorta was tied, for the first time amongst us, immediately above its bifurcation, without doubt the boldest operation in surgery, and carried into effect in England only by Astley Cooper and James, without any favourable result. Nevertheless, the patient, A. M. Cardozo, seemed to be overcoming the terrible consequences that it was supposed would follow. The operator was Dr. Candido Borges Monteiro. For about a week after the operation the patient was seemingly getting better, but they could not consider him out of danger for at least twenty days,"—not to live, however, for he died on (I think) the 15th. The body was taken next day to the School of Medicine, and examined by the operator, in presence of a number of medical men, when they found that everything had been rightly performed, the case only affording another proof that the result must necessarily be fatal.

## MR. WORMALD'S TREATMENT OF OPHTHALMIC AFFECTIONS.

*To the Editor.*—Sir: In cases of intolerance of light with inflammation, or a granular state of the conjunctiva, ulceration or opacity of the cornea, and other affections of the eye, besides the appropriate constitutional treatment, I have been for years in the habit of lightly applying, with the greatest benefit, the nitrate of silver, in substance, *externally*, to the lids, with the view of allaying the morbid susceptibility of that portion of the fifth pair of nerves supplying these parts. Even in intolerance of light, where other structures are involved, sometimes considerable benefit is experienced by this harmless and simple treatment.

I am induced, thus briefly and publicly, to announce the fact, from reading a paper in THE LANCET, by Dr. Hocken, entitled, "A New and Improved Plan," &c. &c. Now, as Dr. Hocken has, with other pupils, been in the habit of seeing my practice at the out-patients'-room at St. Bartholomew's Hospital, I think it only justice to myself to state that this treatment has been there successfully employed, not only in "*slight* ophthalmic affections," but in many severe ailments, and although decidedly "an improved plan," it is certainly not "new," either to my pupils or to your obedient servant,

THOMAS WORMALD.

Bedford-row, Nov. 19, 1842.

## THE BAT CLUB.

THE meeting of this club was held at the Hole-in-the-wall, on Wednesday evening last. As it was an "open meeting," prodigious numbers of practitioners and students attended, as members and visitors, for the purpose of hearing from Sir JAMES GRAHAM the *exposé* of his plan of medical reform. Sir HENRY HALFORD occupied the chair, and Sir ROBERT PEEL had a seat at his right hand. The greatest excitement prevailed, and the proceedings, according to the laws of the association, were adjourned at 11 o'clock precisely. We shall furnish a full report of the incidents of this interesting scene in the next LANCET. Sir HENRY HALFORD, at one period of the meeting, seemed to be much alarmed, and when asked what he thought the result of the agitation of the question of medical reform would be, he answered, submissively, that it was impossible to foretell, adding, that he endeavoured to protect *himself* as well as he could against personal calamity, by adopting for his motto, "CEDE DEO."

## CORRESPONDENTS.

*A Staffordshire Attorney.*—If Dr. Dehane is a practising physician, is not Mr. Phillips a practising solicitor? If the one has patients, has not the other clients? If the candidates be men of honourable reputation, objection to either of them, on the ground that they may be personally interested be-

cause they are engaged in private professional practice, is both absurd and calumnious. In what public situation can any man be placed in which he *might* not be actuated by unworthy motives and feelings? It is quite right to diminish the number and force of temptations, but as the Coroners in most of the counties are so badly paid, it is scarcely possible to find men of sufficient capacity to fill the office, without seeking for them in the ranks of active professional life.

Since acknowledging the receipt of the comments of *Dr. Dick* on the statements of Liebig and the exposition of Mr. Ancell, we have received so many communications bearing on the same subject, and embracing so great a variety of views, that we have determined on withholding from our columns all debates respecting the questions under discussion until the papers of Mr. Ancell have been completed; for, while it is manifest that we cannot find space at present for the insertion of all, each claims publication with nearly equal force. Under these circumstances, we must apologise at this moment to Dr. Dick for delaying, during a longer period than we had intimated, the publication of his letter of the 16th inst. We refer numerous other correspondents to this notice for a reason against the appearance of their communications in print until the arrival of a more suitable and convenient season, by which time, also, they may desire to modify or re-cast them for insertion.

*Inquirer.*—The falsehoods of such a despicable scribbler are unworthy of any serious notice. Instead of holding twice as many inquests as any other Coroner, Mr. Wakley's number does not exceed the number taken by Mr. Baker in the eastern division of the county, although the western division, in which Mr. Wakley acts, is seven times larger than the eastern, and exceeds it in the population to the extent of 150,000 inhabitants.

A correspondent, *An Enemy to Quackery*, says "the Mr. J. Nelson who gives 'advice' at a chemist's shop on Ludgate-hill, is registered on the list of the College of Surgeons as Joseph *Dunn* Nelson. Whether he is any relative of the Messrs. Dunn who make up Mr. N.'s prescriptions for sixpence each, or whether Mr. N. carries on the business of a chemist under his second name, I do not speculate. I am informed that Mr. J. D. N. was a pupil of Guy's, and was fond of boasting his intention of becoming 'a pure'—a pure what, I leave your readers to judge. Members of the College take an oath, on admission, to uphold the dignity of the profession." We cannot, of course, vouch that the parties claiming these names are identical; we trust that they are not. The statement of our correspondent is open to contradiction in our columns.

Sir,—Respecting the queries of a *Constant Reader*, in THE LANCET of Nov. 5th, relating to a professed surgeon, located at No. 42, Ludgate-hill, I beg to give you the result of a few inquiries that I have made. I cannot find out *the* college of surgeons of which he is a member. I believe that Mr. Joseph *Dunn* Nelson is a man of "great experience," having made a voyage of discovery to the Cape and back, in search of the philosopher's stone; and I have just learned that Mr. Nelson has been admitted a licentiate of the Hall. A READER SINCE 1823.

City, Nov. 16.

Sir,—Will an apprenticeship served partly in England and partly in France enable me to pass the Apothecaries' Hall and College of Surgeons; and would lectures attended at the Parisian medical schools be recognised in England?—*R. G.* *** With reference to the indentures, we believe that they would be quite sufficient, as the Apothecaries' Company have acted with very great liberality, in many instances, as regards such documents. Certificates of attendance at lectures and hospital practice in France, are not received at either the College or the Hall.

*Mr. A. Tennent* was entitled to a fee of two guineas. He should have been ready with the result of the analysis at his first attendance, if there was sufficient time to conduct it.

The communication of *Mr. Sanders*, on intra-dental abscess, shall appear next week.

The notes on professional puffing in Dublin in an early number.

At the request of several correspondents, Coroners, as well as others, we shall print in an early number a copy of the report in *East*, "The KING *versus* the JUSTICES OF KENT," wherein Lord Ellenborough is stated to have uttered the outrageous nonsense relative to Coroners having "obtruded themselves into private families." We have refrained from inserting the report this week because we are of opinion that it ought not to be published excepting in connection with a critical analysis of the monstrous doctrine which was promulgated by the learned judge.

The translation of an account of a new platina salt at page 253 of THE LANCET, Nov. 12, was taken from the "Annals of Chemistry." (To what other translation do the Editors refer in their note?)

The statements of *Mr. C. Browning*, of Dorset-place, respecting Mr. W. H. Hodden and Mr. H. Gilbert, shall appear next week.

Sir,—In the same town as myself a young man is practising as a surgeon without possessing any diploma or license. True, he has served a regular apprenticeship, and attended lectures for one winter, but being very nervous (knowing his own deficiency, perhaps), should anything more serious than a scratched finger occur, he sends for his father, who is also practising illegally, at a town about three miles from here. But supposing the following case to occur, how

would you advise me to act?—Say he is attending a woman in labour, who is seized with convulsions before delivery, and not having time to send for Quack, senior, he, affrighted, applies by note to me. I cannot allow the woman to perish, and must visit her, but ought I not previously to require the dismissal of the illegal attendant (to meet him being unprofessional) as a *sine qua non?* On another point, also, I wish to ask your opinion. I am and was a L.A.C.L. and M.R.C.S. *Edin.*, long before the late unjust regulation of the poor-law commissioners (framed by Mr. Guthrie) was ever thought of, and have been elected to a district of an union, there being no one with the required qualifications in the district. Should any one possessing both of these come to reside here, and request the commissioners to take the appointment from me and give it to him, could they compel me to resign it? for if they could, they probably would, although they do quietly allow the aforesaid Quack, senior, to hold the district which is next to this. As this is my first communication with you, I cannot close it without thanking you for the instruction and pleasure afforded me by your valuable periodical. The perusal of its pages is certainly one of the greatest pleasures within the reach of the country practitioner. I am, Sir, &c. G. T.

—— Bedfordshire, Nov. 12th.

*** Certainly our correspondent would not be justified in undertaking the treatment of the case in question if the unqualified person were not first dismissed from attendance. In reply to the second question, we regret to state that our correspondent might be dismissed under the odious and scandalous regulations which Mr. Guthrie tells us that his "private" influence was sufficiently influential to obtain from the poor-law commissioners. By-the-by, we are really surprised that any liberal-minded man should express his approval of such unjust regulations, they having evidently been framed with the almost exclusive view of bringing money to the coffers of the Council of the College of Surgeons.

The remarks subjoined to the letter of *Mr. Craig* shall appear in another number. *Mr. F. Stanley's* case of poisoning with impure nitrous oxide gas, and *Mr. Bree's* case of contracted fingers, in which he advises another mode of treating the case of Dr. Marshall before the severe operation is tried, shall be inserted.

To the *M.R.C.S.* who asks two questions relating to the child which died from burns, we reply, first, that the law required an inquest to be held on the body; secondly, that unless the evidence of the medical attendant was essential to enable the jury to return a correct verdict, from a doubt arising that the death was produced by the burns (those burns having been accidental), the Coroner would not have acted trustworthily with the county funds had he incurred the expense of a medical witness at the inquest.

THE COLLEGE EXAMINATIONS. — *To the Editor.*—Sir, I became a licentiate of the Hall in 1837, by the means which I had husbanded from a seven-years' apprenticeship, but I found it impossible to pay for the College diploma. Therefore I directly went into practice with my licence, never supposing that I should require to be a M.R.C.S. But the regulations of the poor-law commissioners render it almost imperative on me to go to Lincoln's-inn-fields, where the offer is made to practitioners of "a fair practical examination" for the diploma, without the production of certificates, &c. But what does the College mean by a "fair practical examination?" For it is not to be supposed that a country practitioner who has been, for five years, absent from the dissecting-room, can undergo anything like a good anatomical grinding; though if surgical knowledge be the point of test, I would not fear it. Or whether do they really mean to limit these examinations to January next? I should hope that they would admit a man of 35 years of age to examination *at any time.* Want of means alone prevented me offering myself before; for, having passed the Hall, there was little to fear from the College. To give the Blackfriars' men all due credit; they gave me a fair examination of seventy-five minutes, and behaved in a very gentlemanly manner. I shall be glad of any advice or information on the subject. Yours,

Cambridge, Nov. 7th. J. A. H.

*** We understand by the words "a fair practical examination," that no inquiry relating to minute points in anatomy will be made, and that every question proposed will have a direct reference to some practical point in the diagnosis or the treatment of disease, such as any surgeon of competent ability would be able to answer. *J. A. H.* will see that a limit *must* be put to the time when these examinations may be permitted, otherwise the regulations regarding the periods of attendance at the schools would become a dead letter, on the one hand, or operate most vexatiously, on the other, to all who may comply with them.

*M. R. C. S.*—No attention would be paid to the statement made unless the name or names of the one or more places referred to were published with the allegations of our correspondent, who wishes to be informed whether there be any union workhouses in England where an average of only two shillings per case, for attendance on the actually sick, is paid under the "new system" (the substitute for the system of tender) to the surgeon, by the guardians, notwithstanding the recent recommendations of the poor-law commissioners, that all union surgeons should be adequately remunerated as parochial medical officers.